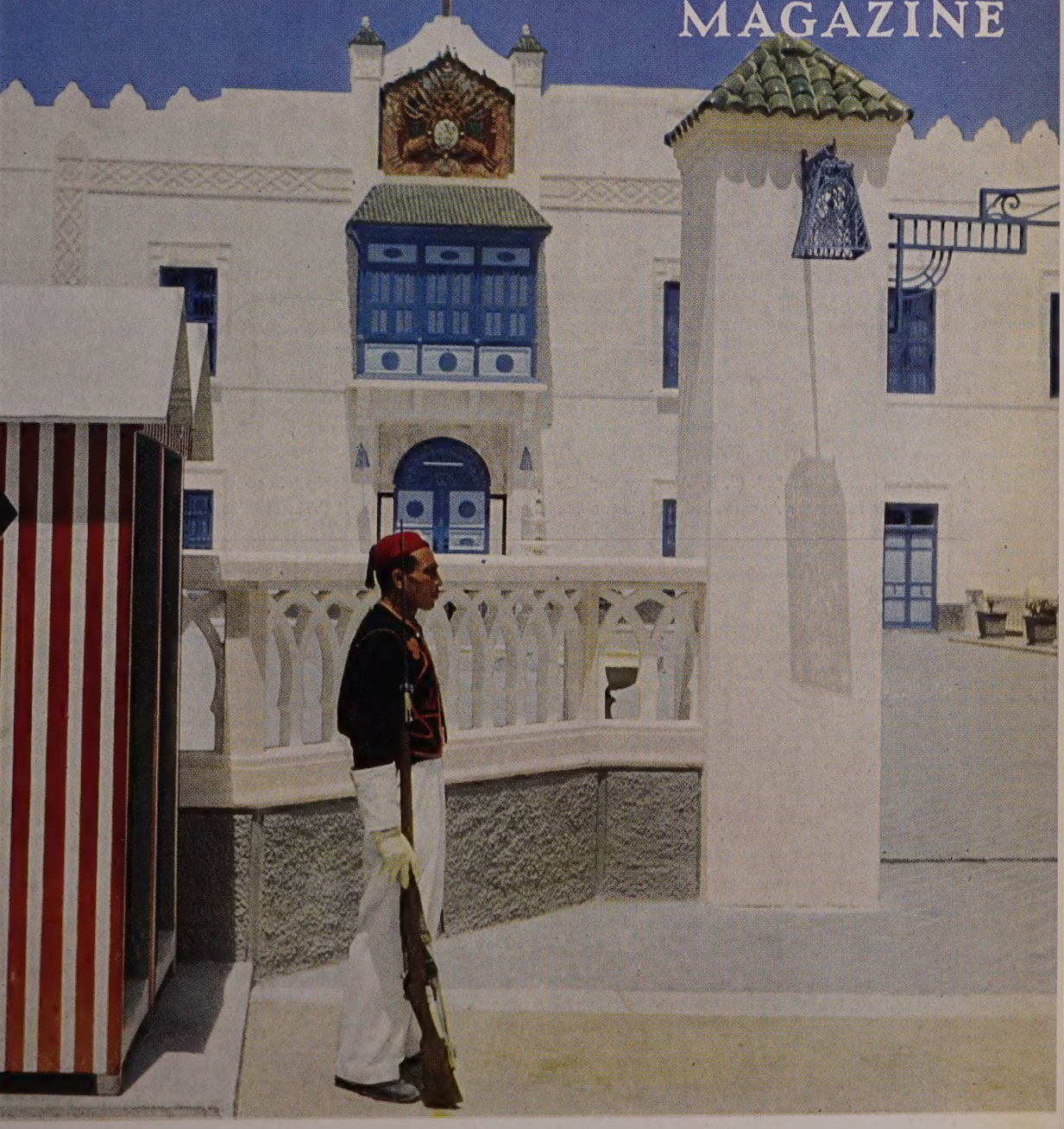
The DECEMBER 1953 2/6

GEOGRAPHICAL MAGAZINE



Foreigners' Footwear

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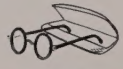

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The Mathematicians' Revolution

by PROFESSOR E. G. R. TAYLOR

This is a tale with a moral for our own time. Proposals are frequently made for increasing the number and improving the status of scientists and engineers: the Head Master of Eton has recently pointed out that they are unrealistic so long as there remains a serious shortage of science teachers in the schools. Professor Taylor, author of Late Tudor and Early Stuart Geography *and* Mathematical Practitioners of Tudor and Stuart England, *tells how our ancestors 300 years ago faced a similar problem and how a new social group of scientists and technicians then emerged*

TODAY the whole world cries out for more and more scientists and technicians—America has too few, we have too few, the 'backward' countries asking for dollar aid stipulate also for the loan of technicians, for they have very few indeed. And they have so few because such higher education as they possess has been organized on the traditional 'gentlemanly' lines—they have faculties of philosophy, history, law, medicine, economics, and these breed up government officials, administrators, politicians, but not draughtsmen, designers, engineers, inventors: not, that is to say, people who do things and make things rather than talk about things and write about things. All of which (so it is said) goes back to ancient Athens, when all the 'doers' were slaves, and gentlemen could hold day-long talks and arguments about philosophy and aesthetics. As Xenophon put it: "What are called the mechanical arts carry a social stigma, and are rightly dishonoured in our cities."

Whether or no this is the explanation, it is certainly true that when in England the need for scientists and technicians was first felt—more than four centuries ago—the Universities were under the spell of the long-dead Greeks. Such little mathematics as they taught (and it was of the very slightest) was what they termed "speculative" only, and was kept pure from any taint of application. And the situation was worsened by writers who made all mathematics into a sort of bogey. Too much of it (they said) unfitted a man for ordinary society, and the man with the 'mathematical head' was so vacant as to be next door to an idiot. Or even if that was not so, did not mathematics come pretty close to the Black Arts? Was not the mathematician a magician, a conjurer, a dabbler in forbidden practices? And since, of course, a good grasp of mathematics lies at the very root of the education necessary for a scientist or technician, all this was very decidedly unhelpful. Fortunately, however, there was one profession dependent upon mathematics which kings and princes never felt able to dispense with—that of the astronomer-astrologer, who kept the calendar, and who worked out from the stars the good and evil, fortunate and unfortunate days. It was these men, therefore, whom the Portuguese Prince Henry the Navigator, for example, called in to help when the new voyages of discovery made the mathematical seaman a necessity. These were the men who taught Italian gentlemen the new techniques of warfare—range-finding for cannon, and scientific fortification against the cannon of the enemy.

But England in those days was a backward country, still in the bow-and-arrow stage, a mere "primary producer" as the economists would say, living by agriculture and a little old-fashioned mining, and exporting raw wool, tin and lead. Her few technicians and scientists were nearly all foreigners. A Bavarian astronomer-astrologer, for example, was employed by Henry VIII to make his sundials and show him the stars, and the Lord High Admiral had to put Portuguese and French pilots aboard his ships. The King's household accounts are full of foreign names: of armourers, clock makers, engineers, engravers, printers; and Queen Elizabeth had to bring in German miners when she wanted to open up the copper mines in Devonshire and Westmorland. It was an alchemist with a German name, too, who persuaded certain highly placed gentlemen (including Lord Burghley and Sir Humphrey Gilbert) that by a "new art" the copper could be turned into gold. Burghley, however, was a shrewd statesman. He realized that industrialization was the only way to cure the growing unemploy-

British Museum

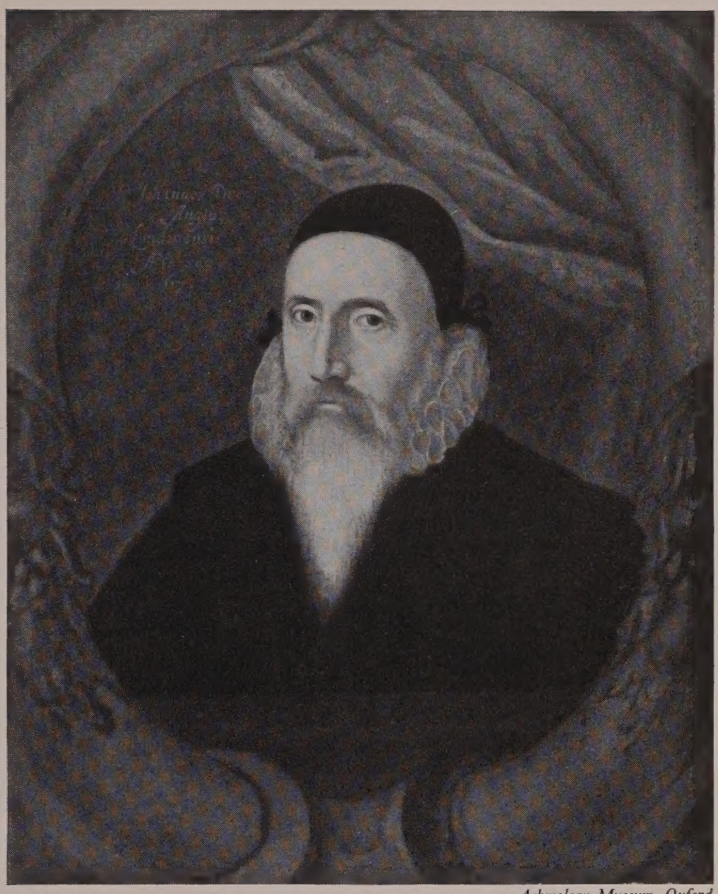
Until late Tudor times, the English were extremely backward in applying mathematics to the affairs of daily life, of which astrology was one; they had to borrow their first printed Almanack from the French. Here a French astronomer-astrologer, in the guise of the Master Shepherd, explains how to find the meridian line so as to tell the time by the Great Bear

ment or under-employment that was causing crime and unrest. He saw, too, that new industries depended upon training up English scientists and technicians to replace the foreigners, and he encouraged every movement in this direction. Maps, he realized, were essential both in war and peace, and he saw to it that adequate maps and plans were made by the military engineers during the campaigns against the 'rebels' in Ireland. Scores of these maps survive, many with his marginal notes.

Very naturally Burghley was the patron of John Dee, the most brilliant mathematician, scientist and technician of the day, and the instructor of the pilots for the Arctic voyages. And John Dee's trumpet-call to mathematical learning and its practical use, which he sounded in 1570, may be reckoned the inspiration and charter of the new social group of scientists and technicians which sprang into being from that time on. Dee's opportunity had come when a number of prominent merchants and business men begged him to write a Preface to the first English translation of Euclid's *Elements of Geometry*, which one of them had sponsored. In reply, he set out the whole scheme of mathematical practice from top to bottom, and showed clearly how closely it might affect the life and wealth of the nation—by efficient land-survey and map-making, for example, by improved navigation and chart-making, by better gunnery and fortification, mining and water-supply, time-keeping and astronomy. And he made no bones about astrology, in which the Queen and most other people had implicit faith. In his scheme of the mathematical arts it took its place, for (he said) it "reasonably demonstrateth the operations and effects of the natural beames of light, and secret influence of the planets and fixed stars, in every element and elementary body, at all times in any horizon." In fact he assigned to the mathetical elements (arithmetic and geometry) a triple use, to things divine ascending, to things natural descending, and to things mathematical without application, i.e. pure mathematics.

Who were the people whom John Dee inspired? They were the often self-taught precursors of our chartered surveyors and civil engineers, of our scientific instrument makers, aeroplane designers, navigating officers and inventors. If we turn on for rather more than a century after the publication of Dee's Preface we find them picked out as a separate occupational group in a census estimate of 1684. There are 15,000 of them, neither

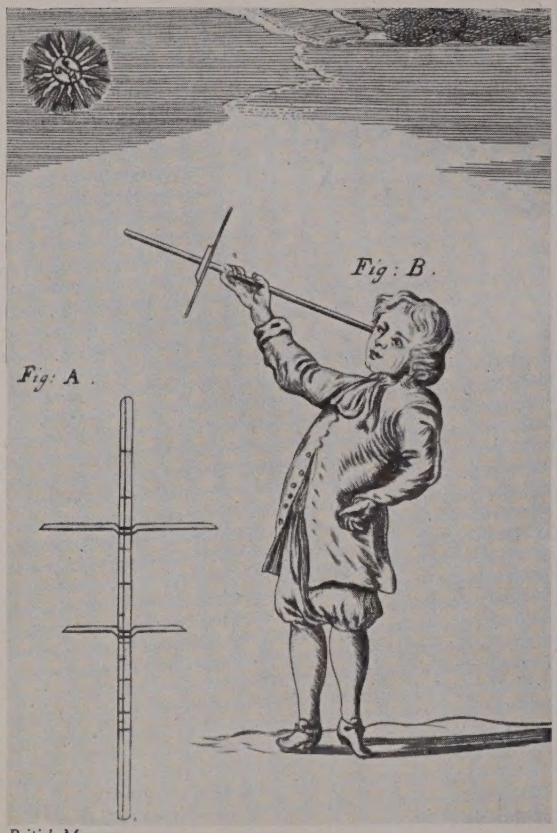
gentry nor farmers, neither traders nor artisans, neither army, navy, clergy nor law: "those practising in the liberal arts and sciences." Their average income was £60, which was better than that of the lesser clergy, and equal to that of the average army officer, but less than that of a land-owner. Their households averaged five persons, which suggests that they kept one indoor servant. The whole population of the country was estimated at rather more than 5,500,000, mostly country-folk. The man who made these estimates was himself one of the class which he distinguishes, a technician and the son of a technician, and his life was quietly prosperous. His name was Gregory King, and his father, who had the same name, was a land-surveyor at Lichfield. Not a very steady or sober man, he early brought his little boy out into the field to help him, and by the time he was thirteen the lad could handle the plane-table and theodolite, draw out the plans, calculate the acreages, do all, in fact, that was required. Such skills were rare, and in 1663, when he was barely fourteen, young Gregory was snapped up as clerk by that notable topographer, Sir William Dugdale, who was about to make a Herald's Visitation of Staffordshire, for he was Garter King of Arms, and had proclaimed the Restoration. The next few years of King's life were spent travelling up and down the country, drawing plans and prospects of churches and great houses, copying coats-of-arms and inscriptions on tombs, all for a salary of 50s. a quarter. And even this was not always paid, for on March 28, 1667, Sir William wrote in his diary: "Given to my man King £5 for these three quarters past: he having much benefited by my last journey into the North ... which may well recompense him the other 50s. due to him." Of course, this employment brought King often to the Heralds' College in London, where he got to know the famous Czech engraver Wenceslaus Hollar, and added engraving to his skills, and presently he was given a minor post there, and rose later on to be Lancaster Herald. But meanwhile we catch a glimpse of him with a new master, John Ogilby, and sitting quietly in the background while Ogilby discussed his plans for publishing the first English road-book and new county surveys with Hollar, and with Robert Hooke, the man who looked after experiments for the Royal Society.



Ashmolean Museum, Oxford

Dr John Dee (1527–1608), whose "trumpet-call to mathematical learning and its practical use" inspired a new social group, with revolutionary effects on England's economy

King surveyed some of the trunk roads for Ogilby, as well as the county of Essex and a good deal of London, and when this was done he took part in other cartographical projects which involved working through the Hearth Tax books, in which all inhabited houses were listed. He did engraving and lettering besides, and was well enough off to marry and take a house at the east corner of the new and fashionable Piazza in Covent Garden. But what was more important, he knew all the scientists and technicians in London, and his familiarity with the countryside through his work there made him just the man to take part in the very newest application of mathematics to life,



British Museum

what was called Political Arithmetic or, as we should say today, statistics. The population estimates from which I have quoted were but one of many sets of figures that he gathered, figures of land areas, land use, productivity and the like. But they were not published. There were still too few people to appreciate their worth for that.

Of the 15,000 men practising the arts and sciences a majority lived in London, and this was particularly true of the scientific instrument makers. Of these we only know of one in Oxford during the last half of the 17th century, and there was not even one at Cambridge, where Isaac Newton had to grind his own lenses and speculum for his newly invented reflecting telescope. It was he, however, who changed the whole situation, when at length he was persuaded to have his *Principia* published, just about the time when Gregory King was drawing up his statistics of occupations. The idea of the whole Universe as ordered under the single, all-embracing, and divine Law of Gravity appealed to theologians and literary men as well as to scientists, and when the new century was ushered in the London instrument makers were busy on equipment for the first English university observatory, that at Trinity College, Cambridge.

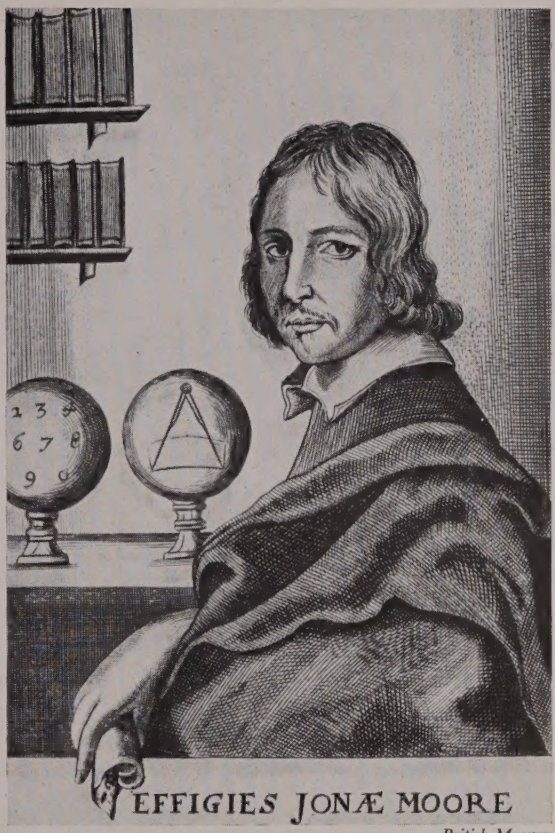
There had, of course, been a Royal Obser-

(Above) *Mathematics are essential to navigation; and Charles II, persuaded by Sir Jonas Moore to found the Royal Observatory at Greenwich, also established a mathematical school at Christ's Hospital. This is one of the illustrations to the* System of Mathematics *written by Moore for the school. The boy is learning to employ a cross-staff, used for finding the latitude at sea*

(Right) *John Day printed the first English book on the applications of mathematics to be written for gentlemen, whose obligatory interest in the art of war led them to appreciate improvements in gunnery, based on mathematical calculation. He drew the illustrations himself; behind this initial letter an Elizabethan gunnery officer is depicted range-finding while his men stand by*

British Museum

vatory down at Greenwich for a quarter of a century, and that was largely because of the efforts of a very notable mathematical practitioner, Sir Jonas Moore. Like so many members of this new occupational group, he was country-born. As a boy clerk in Durham, his aptitude for mathematics had been noticed and fostered by a local parson and directly he was old enough, Jonas came up to town and attached himself to the doyen of London instrument makers, the famous Elias Allen. He then began to teach mathematics, write textbooks, and do surveying, at which he proved so good that a Member of Parliament introduced him to the Duke of Bedford and as a result he surveyed the Bedford Level in the Fens. This made his name, and he ended up as Surveyor of Ordnance, with a knighthood and a house in the Tower of London. Here he built up his great library of mathematical books and instruments, and here he entertained young men of scientific promise and gave them useful introductions. Among these was John Flamsteed, who as a young clergyman in Derbyshire was gravely disconcerting and distressing his friends by his addiction to gazing at the moon. But Moore recognized the value of his observations, and had actually been about to provide him with an observatory at his own expense when the opportunity occurred to surprise Charles II into founding



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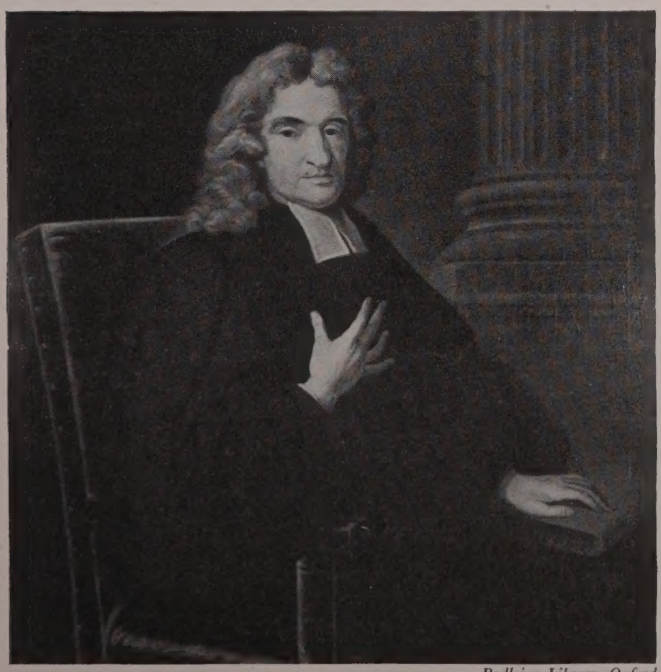


Bodleian Library, Oxford

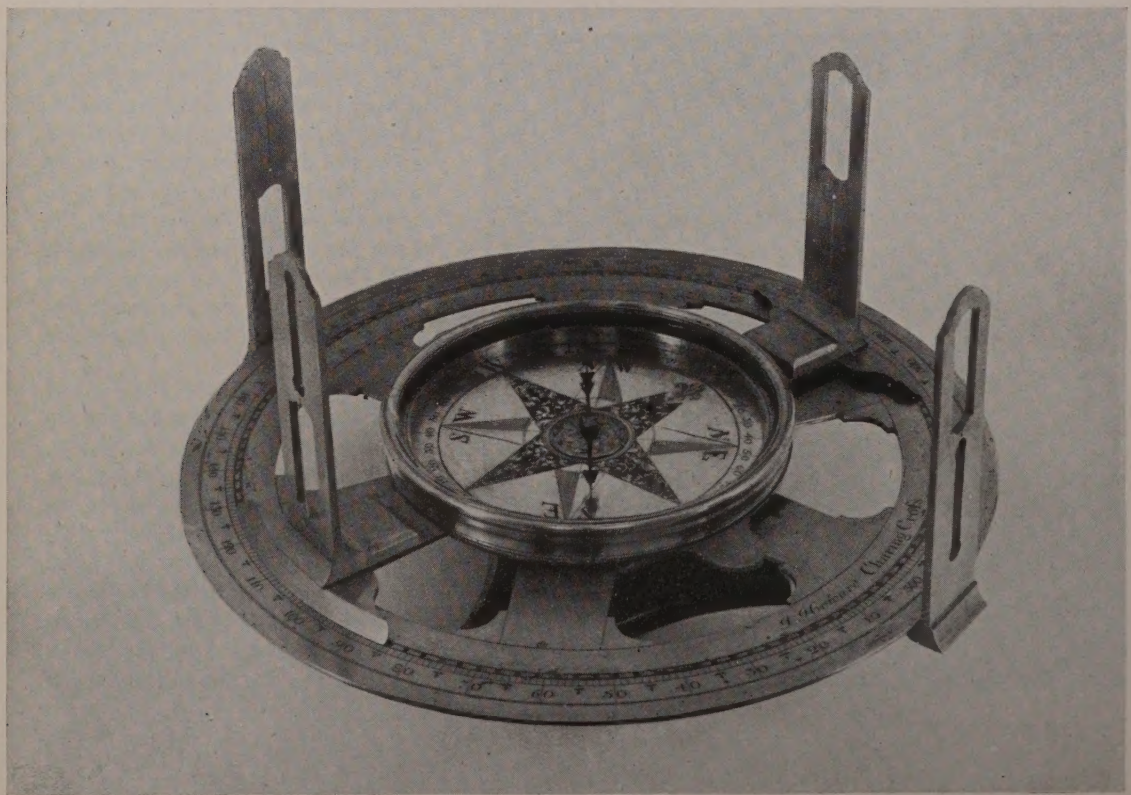
(Above) *Sir Jonas Moore (1617–1679) came to the King's notice as a young mathematician of genius during the Civil War, and Charles I appointed him tutor to the Duke of York. Soon after, the boy had to be sent abroad; but despite this setback Moore's reputation increased. The Duke of Bedford engaged him to survey the Fens for draining; finally he became Surveyor of Ordnance*

(Left) *John Flamsteed (1646–1719) began, while a very young man, to correspond with the Royal Society, and the Fellows recognized that here was someone able to draw up the improved Lunar Tables needed for finding the longitude at sea. Jonas Moore brought him to the King, who appointed him the first Astronomer Royal, little knowing the tables would take forty years to complete*

(Left) *William Leybourn (1626–1716), when this portrait was made during the Commonwealth, was still a young printer who looks "pleasant and facetious" enough. Perhaps it was a bad illness that he underwent, or his marriage, or the unseemly licence of the restored Court, perhaps just being a teacher, that made him look so hollow-cheeked, stern and forbidding in later portraits*

British Museum

(Below) *The circumferentor was a popular surveying instrument, long the rival of the plane-table, invented some time before 1600 by John Godwyn, one of the earliest of London's teachers of applied mathematics. The instrument was used to take bearings from either end of a measured line, whereby the position of any point could be fixed on a map*



Crown Copyright. From an exhibit in the Science Museum South Kensington

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Only practised mathematicians can make accurate maps and charts. This is part of a map drawn by Joel Gascoyne in the reign of William III. He was a professional surveyor and chart-maker who lived at the Sign of the Platt, three doors below the Chapel, near Wapping Old Stairs. Mr Pepys consulted him when he began to suspect the accuracy of John Seller's charts, made not far away

one by telling him why without it the problem of finding longitude at sea could never be solved; telling him, besides, that John Flamsteed (conveniently in London) was the very man to be made Astronomer Royal. In this Moore was backed by Robert Hooke—another country boy who made good, for he was sent up to London from the Isle of Wight with £100 to make his own way, and developed such a genius for applying mathematics to the making of instruments and experiments that he was the obvious Curator of Experiments for the new Royal Society. The City employed him too, and as one of the sworn Surveyors after the Great Fire he made a great deal more in fees than the £60 a year of the average scientist or technician.

Probably the easiest road to wealth for a mathematical practitioner, however, was as an almanack maker and astrologer, for whatever educated people might think about it, the majority of people were uneducated, and expected their almanack to contain prognostics for the coming year. They expected, too, and received, more personal advice besides: "A lady has had her washing stolen from the line, will she recover it?" "A Mr X has been invited to join a company for making glass. Should he accept?" And again and again: "My husband is at sea, will he come safely home?" There were famous astrologers like William Lilley, John Booker, and John Gadbury who did nothing else, but Lilley's assistant and successor, Henry Coley, set up a mathematical school near the Old Hole in the Wall, and in his advertisements boldly included astrology (as John Dee had done) among the mathematical arts that he taught. The sceptics included William Leybourn, although several of his close friends were astrologers. He had been apprenticed to the printing trade, and became a master-printer, but the mathematical books that he set up in type so entranced him that he began to make

astronomical observations, and to practise surveying as a side-line. He tried his hand at writing textbooks, too, and was so successful that he gradually gave less and less time to printing, and more and more to mathematical practice, so that in the end the latter became his sole profession. He was in great demand as a land and quantity surveyor in London after the Great Fire, and also proved a popular teacher, but as he grew elderly (he lived to be over ninety) and less anxious to move about, he boarded his pupils at his house on the Uxbridge road near Southall. According to his friend John Gadbury, who cast his horoscope, he was a "pleasant, facetious" man, but his portrait in his later textbooks shows him with a stern, puritanical look, dressed in a long black gown with white bands at the neck.

John Gadbury had a kinsman, Timothy Gadbury, who practised in rather a specialized technical field, the instruction of seamen in astronomical navigation. He lived down Ratcliff way, so as to be near his clients. On Tower Hill, by St Katherine's Docks, in Wapping, Ratcliff, Limehouse, Rotherhithe, in fact wherever sailors and gunners concentrated, there were to be found teachers, instrument makers, chart makers and booksellers who catered specially for them. Timothy Gadbury published a *Guide for Young Seamen*, in which he recommended the books (including those on astrology) which they ought to study, and the instruments they should buy. He specially advised them to go to John Seller, the compass maker, who made and sold all the instruments for navigation, gunnery and survey at his shop by the Hermitage Stairs, Wapping. Seller not only made some scores of different instruments, but he was prepared to teach the use of every one of them, and he wrote what a naval officer declared to be the best book of nautical instruction ever published. Even this did not satisfy his ambition. The charts he sold were practically all Dutch, and he proposed to make and publish a complete set of Pilot Books, with all-English charts. His project won him the title of Hydrographer to the King, but in point of fact (as Samuel Pepys discovered) many of the new charts were simply the old Dutch plates touched up. Technical instruction cannot safely be left to private enterprise, and King Charles followed up the provision of a Royal Observatory by establishing a Mathematical School for forty of the boys at Christ's Hospital, in which they would be trained for the sea. He could not have foreseen the difficulty of finding suitable masters for these boys, for of course the university men knew nothing of applied mathematics or of the sea, while the ordinary teacher of navigation (often a retired seaman) was uneducated in any academic sense : he had no Latin. Nor could anyone have foreseen the dreadful time these specially trained boys would have at the hands of the ordinary apprentices, and even of the ship's captain, once they got aboard ship: Flamsteed made the humane suggestion that they should always be sent out in twos so that they could defend themselves.

But change was on the way. The work of the Royal Society, and especially of men like Isaac Newton, Edmund Halley, and Robert Hooke, was accustoming the general public and the government to the notion that provision must be made for the education of scientists and technicians. Samuel Pepys had introduced an examination to be passed by Lieutenants in the Navy, and in 1702 authorized instructors in navigation were appointed. Parliament voted a large sum to be the reward for solving the longitude problem—although it was nearly half a century before John Harrison won it with his chronometer. Public lectures on applied mathematics were attended by fashionable people in London, and the booksellers clubbed together to publish a *Lexicon Technicum* by one of the lecturers. In the schoolroom young ladies were taught the Use of the Globes while downstairs their papas entertained guests by winding up the Orrery, so that the ordered motions of the heavens were handsomely displayed. Telescopes, microscopes, magic lanterns, and universal dials were in great demand, and scientific instrument makers flourished. New courses in Natural Philosophy were instituted at the Universities, and as we have seen Cambridge started an Observatory, which was put in the charge of a very youthful professor who had fallen in love with applied mathematics while still at school and somehow got hold of instruments. The new King, George I, had his appointed Instrument Maker, as did the Prince of Wales. Naturally the number of "persons engaged in the liberal arts and sciences" rapidly increased. Yet the grammar schools and the great public schools did not alter their curriculum, and although several more mathematical schools were founded, a majority of boys had only "the education of a gentleman". Not until our own times was there a radical change, and even so (we are told) the number of scientists and technicians is too few if the country is to prosper.

Foreigners' Footwear

by DAVID PIPER Illustrations by NORMAN MANSBRIDGE

"The reason you lost the war in Malaya," said the Japanese captain of Military Police, "the reason was . . . but excuse me, pliss, your glass is empty."

My tumbler was refilled with brandy with a dash of milk. It was the day that Singapore fell; it had in fact fallen about half-an-hour ago.

"There were three reasons," said the Japanese captain, with a courteous smile. "Number one—you had too much equipment. Number two reason—your smell; I mean cooking, mosquito cream and so on," he added, lest there should be any offence. "And number three. Oh, number three—your *boots,* of course!" He sniggered openly. "Oh, your boots! Klomp, klomp! We hear your boots miles off!"

He put his own foot up on a rather scratched Louis XVI commode that served him as tent-table, and contemplated his boot. It was, I thought, a remarkably sinister boot, made of rubber mainly, almost a girls' basketball job—except for the big toe, which was separate, in its own little sub-para of a boot; clearly the devils in this brave new world were not much different: they too clove the hoof.

The captain waved his big toe at me. Then he removed his boot from the commode, and apologized for talking shop. We talked formally about the Boat Race for some time, and I felt that I disliked him. He was an Oxford fan. Then he said I must be tired; I must have my wound dressed and go to sleep and in the morning I would be given back to all my comrades and in two or three months we would all go home to our wife-oos, for the war would be over. It was all very jolly and the rather strained talk that had been going on earlier that day about shooting seemed to have been forgotten, but all the same I disliked that captain. It may have been the brandy, of course. I wasn't accustomed to drinking it with milk.

"*The captain waved his big toe at me . . .*"

But, much as I disliked the captain, I disliked my boots even more. There was something in what he had said about them, and anyway I have disapproved steadily of Western footwear since I was first forced into it, and lost the invaluable art of plucking a dandelion clock between great and second toe, raising it elegantly to the mouth, and so being able to tell my fortune at any hour of the day. After my conversation with the captain, I had some years' leisure in which to meditate this problem of the boot; but while I was able to formulate certain basic theories, I was not free to undertake the necessary practical research, by travel and personal investigation. That was to come later, but meanwhile I devoted myself selflessly to whetting my courage for the great campaign for the abolition of the low laced shoe and its oafish cousin, the army ankle-boot, and for the invention or discovery, and subsequent propagation, of its successor.

Ideally, there should of course be no shoes or boots at all. Shoes breed corns, bunions, blisters and sundry other malformations; shoes deprive you of more than mere physical comfort—it might almost be posited that a state of pure contemplation can only be attained when one is seated moving one's toes rhythmically in warm dust, or better, mud. But to dismiss footwear altogether is unrealistic; we cannot all live in the tropics, and in certain latitudes, if you do not wear shoes you may lose your feet from frost-bite. In the north we must clothe our feet to survive. A fully documented survey of how we do it has long been a major desideratum; at present I am able only to offer some sporadic notes, but I hope they may stimulate others in this field.

Cast your eyes over the feet of the world. What do you see? The majority of mankind, the happy many, wear no shoes at all, and you see toes, toes everywhere in the tropic zone, waving deliciously in the languid air like the antennae of a myriad sea-anemones. Further north, or south, you see them withdraw, bruised, stunted into drear carapaces of leather. Here, at once, a terrifying monotony; almost all the carapaces are black or brown, at least in the male specimens; you have stumbled on the most frightening phenomenon of modern times known to pedi-searchers. It is called the Oxford fixation: the

"*. . . from that dreaming city the nightmare has spilled out . . .*"

". . . the klomping of the klompers in full frenzy . . ."

gradual but remorseless encroachment of the low shoe over the male free toe. In this country, its origins are subtly concealed; we call the thing a shoe, but the candid Americans fearlessly label it by its true name: the *Oxford*—and from that dreaming city the nightmare has spilled out, a dingy flood, like a horde of cockroaches engulfing the feet of the world. In Aurungabad, I have seen the feet of a high-class Brahmin trapped in black beneath his white *dhoti*; in Durban, a Zulu emerging from a shoe-shop, innocently exulting in his tight shoes, though already limping.

Surely, the boot was never intended by divine providence to be so sadly uniform. If we must cover our feet, then make the covering not merely suitable, but make it gay. The boot is naturally subject to environment and climate, and it should blossom in as rich variegation as the flowers of the field. As indeed it used to, as indeed it still does, if you are prepared to leave the track so glumly beaten into highway by the passing of countless Oxfords. It is worth the detour; the pursuit is fascinating. What, after all, honestly, do you know of foreigners' footwear? Perhaps only that it is painful; foreigners, you will have noted, always Suffer from their Feet. In Trafalgar Square, in Tudor tea-rooms across the whole countryside, you see them sitting, a foot in either hand, suffering. So too, when you go abroad, and are transformed into a foreigner, your feet drag aching from the endless pavements of the Champs Elysées to the Corso, though the natives flit past twinkle-toed with never a corn in the world. It is a curious phenomenon, for the great majority of men, foreigners and natives alike, wear exactly the same kind of shoe, the abhorred Oxford. To find more exciting footwear, you must quit the capital cities.

As an elementary exercise, the wooden shoe will serve. It is broadcast over much of the globe, and has many variations; it is also one of the oldest types of shoe. At home, you can find it especially in the North, though disguised with a leather upper: the clog. Practical, cheap, and expendable. But not, perhaps, beautiful? Visually it may be scarcely elegant; its beauty is aural. The music of clogs over cobbles, in a town like Barnsley, is like the tattoo of dry leaves in November streets, dancing to a jostling wind. Cross the Channel, and in Northern France you will find the *sabot* with its curved prow, thrusting slowly through the ancient mud like a barge. A slow and clumsy footgear, perhaps, but with a rugged and vital individuality, and useful too for other purposes: as an offensive weapon, or for growing hyacinths

" . . . what indeed would the Duke have said . . .?"

in. And not so slow as all that—turn a little further northwards, to Holland—Volendam or Zeeland : under the horned bonnets, the full skirts and baggy trousers of butcher blue, the sabot again, but now called the *klomper*. It too is designed against the heavy Northern mud, but it is also a dancing shoe : the klomping of the klompers in full frenzy will put any tap-dancer to shame, in a district such as Laren, the white-painted klompers glinting beneath tight black trousers. It will be found that, after the dance, it is far more satisfactory to drink champagne out of a young lady's klomper than out of a ballet-shoe. There are other varieties in Europe that there is not space now to consider; I must quote at least one specimen of the Eastern wooden shoe: the *geta,* from Japan. This is a wooden sole with a leather strap across the instep—in its simplest form. It can be much more complicated, higher, mounted on little stilts two or three inches high for women. It is a kind of slipper, easily slid on and off, and unlike the sabot is not designed for heavy weather; if you do get caught in mud, the geta is excruciating. The strap inevitably breaks, and you are left stranded on the other foot. It is more decorative than the sabot, but it is a decadent form.

For a more advanced exercise, the student might well consider the Origins, History, and Present Standing of the High Boot, the Boot Proper, that reaches at least to the knees, and, in its full glory, well up the thigh. This is of course intimately related to the history of the Horse, and, with the Horse, it has declined recently almost into a curiosity. Where now are those full and flopping boots of the Cavaliers that lend glamour to so many Van Dycks? Who now can distinguish accurately between a *Hessian,* a *Jack,* a *Top,* a *Blucher* or a *Wellington*? And what indeed would the Duke have said if he had found himself at a levee with his legs cluttered with those uncouth, clumsy agricultural implements that have now usurped his name? In England the boot proper is still bred in a few specialized cultures : the hunting field, the Horse Guards, the racecourse, the sewers, Rotten Row. Some tank-borne regiments even still affect the spur in certain uniforms, but what a vanity this is anyone who has ever tried to spur a tank will readily recognize. Abroad, the situation is more healthy, particularly in

"*Magyar dancing . . . the flash and stamp of high red boots . . .*"

Germany; but in Germany, the jack-boot has sinister overtones, having come to be associated with offensive militarism. This is understandable, but regrettable, for the jack-boot is both serviceable and showy. Exactly how serviceable. I realized in Düsseldorf last November, when standing in a tram-queue in a downpour; my trouser turn-ups gradually filled with water, which they then poured precisely into my shoes; but the man next to me was wearing high boots, which began just where his mackintosh ended, and his feet were as dry as if they were by his own fireside. All over Eastern Europe, the high boot retains some of its popularity, even though most people have lost their horse, and it is vital for certain ceremonials, notably folk-dancing. Magyar dancing without the flash and stamp of high red boots would be unthinkable.

There are also forms of high boot that owe nothing to the Horse—the sea-boot, the fisherman's wader—but my favourites are those worn in Greenland. When last there, in late '49, I spent a night with a friend of mine, whose family, rather old-fashioned, cling to the old customs and costumes, though they have certain modern conveniences, such as an ice-box. I was lent a pair of sealskin trousers for the night, together with a pair of boots—the most beautiful objects, made of soft, hairless, frost-bleached sealskin, and decorated with bands of coloured leather. We dined, I remember, in boots and trousers, but stripped to the waist, as the floor temperature was below freezing but the fug at waist-level quite cosy. The fashion might well prove comfortable in the warmer English hotels.

That was when I was on my way to the States, to investigate one of the last cultures where the horsey high-boot is still everyday: the great cow-prairies. I travelled down from New York with a woman who had the highest

"*. . . the most beautiful objects, made of soft, hairless sealskin . . .*"

". . . his heels were even higher than hers. And scarlet . . ."

heels I had ever seen; she could barely walk. She turned out to be a model; she said her shoes were the highest in America, but when we arrived at our destination (which proved to be mutual) I was happy to see that my host, who was meeting me, was in full cowboy rig, and his heels were even higher than hers. And scarlet. Not to mention the spurs. I introduced them, and they considered each other's heels furtively. There was no doubt that his were the highest.

Then the model said, in a rather ill-bred way, that high heels under a man were effeminate.

My host bristled, his holsters wobbling, and asked if she'd ever tried to rope a steer on horseback; the heels, he said, kind of locked in with the stirrups.

She stared at him, and shrugged her shoulders. "Well," she said : "have you ever tried to rope a ma . . . an?"

The disparate functions of these two sets of high heels, the one almost workaday in purpose, the other almost biological, should

prove of absorbing interest to the student. But the study of the high heel is complex, and must be left for another occasion. I have indeed had time only to outline a few directions which research might take. I have not even mentioned Felted Footwear: the boots of China and Mongolia, the thigh-high red, white and blue ceremonial boots of Tibet. Nor have I been able to consider the sandal, perhaps the most widespread, in its many variations, of all forms of footwear. Who can think of the *espadrille* without a song in his heart? Or consider, for example, the Red Indians, who not only invented the stealthiest of all shoes, the *moccasin*, but whose diabolic ingenuity twisted the tennis racket into the snowshoe—and thence, of course, the whole problem of mobile footwear has to be approached: the ski, the ice-skate and the roller . . .

In fact, I was a little depressed when I reached the end of my allotted space. I had not even broached the aim of all this research: the formulation of the ideal shoe, the routing of the Oxford. You will die, whispered my conscience in my ear, before you have accomplished anything. In a sort of frenzy I seized a pencil and began to draw out a blue-print, not perhaps of the truly global shoe, but *the* shoe for the Northern Hemisphere. It must have a stout sole for endurance, yet supple for comfort. I toyed with the idea of the Open Upper, only to abandon it. My pencil, as though inspired, drew on. . . .

"My God!" I thought, staring at my design, "I've got it! the Ideal Boot!"

I was drafting a letter to the Patent Office as my wife came in and I did not notice her for a moment, until she started hitting me gently on the head with two objects that dangled on a string. I looked up. I was astounded. I embraced her.

"It's fantastic! It's telepathy. How did you dream those up? I've only this moment finished inventing them. . . ."

"Darling," said my wife. "These are your old army boots. I'm putting them in the dustbin. I'm sick and tired of them cluttering the place up."

But I do not despair. I have summoned the first International Pedisearchers' Conference; it is to be held at Streatham next July. I hope to book rooms for all foreign members at the Ritz; at least that'll give the boot-boy something to think about.

". . . *rooms for all foreign members at the Ritz* . . ."

A New World Under the Sea

by RICHARD GARNETT

There are many new worlds to explore; their exploration is restricted by man's ability to invent new techniques. The author, himself a practitioner of the technique described in the books of Jacques-Yves Cousteau, Philippe Diolé and Hans Hass, surveys its possibilities and limitations

In the last two years people have begun to be aware that a new world is being discovered, the world under the sea. It has always been there; divers have been plumbing its depths since Herodotus, yet one has suddenly begun to hear a great deal about it, and perhaps to wonder why one had heard so little before.

A revolution in diving technique is beginning to have results. The old-fashioned diver walked on the bottom in cumbrous leaded boots and breathed air pumped through a pipe from the surface. He was as ungainly as a lobster on a string. The "frogman" is as free as a fish, his density is the same as that of the water around him and he carries his own air supply on his back.

In the mid-thirties a few enterprising sportsmen started to use goggles to enable them to see clearly under water, for the naked eyeball is suited to vision only in the air. The refraction of light entering from the much denser medium of water is not enough to form a clear image on the retina. But looking through a flat glass window is just like looking down through the surface of dead calm water. There is the same effect of refraction making everything seem nearer, about three-quarters of its real distance away.

The human body is ill suited to swimming even on the surface, and in 1926 Commandant Corlieu devised rubber fins for the feet. With these one can swim under water for as long as one can hold one's breath. Some of Hans Hass's divers have trained themselves to hold their breath for several minutes, but I find I cannot hold mine for more than one. Things have been made easier for the goggle-diver by a short "schnorkel" tube to enable him to breathe through his mouth with his face under water, and by lead weights to counteract some of his buoyancy. But he is still tied to the surface for his supply of air.

During World War II both sides developed the "frogman" apparatus, upon the system devised in 1911 by Sir Robert Davis for seamen escaping from submarines. It has a "closed circuit", that is to say the diver breathes neat oxygen in and out of a canvas bag on his chest, and there is a caustic soda filter to remove the waste carbon dioxide. This system has two disadvantages : the diver is obliged to release further supplies of oxygen by hand from a small cylinder, and he cannot dive at all deeply. The body is used to breathing air, a mixture of one part of oxygen to four of nitrogen. Pure oxygen is thus a very strong diet, and under pressure the lungs absorb much more than usual. The excessive oxygen in the blood can cause serious convulsions below about thirty feet. On the other hand the supply lasts for a long time—several hours—and Hass, who has the benefit of being a remarkably good swimmer, has achieved excellent results with it. Militarily it has one enormous advantage : it leaves no tell-tale wake of bubbles.

Meanwhile, in 1943, Cousteau produced his first compressed-air "aqualung", consisting of a duralumin cylinder about the size of an elongated vegetable marrow containing 1000 litres of air compressed to 200 atmospheres or about $1\frac{1}{3}$ tons per square inch. This air is supplied by an ingenious demand-valve which delivers it at the same pressure as the surrounding water as soon as the diver begins to draw breath. The moment he begins to breathe out the supply of air stops, an exhaust valve opens, and a plume of bubbles of spent air rises to the surface. He just goes on breathing naturally until no more air will come, then he opens a small reserve supply and knows that the time has come to return to the surface. Subsequent models have been made with two and even three cylinders.

The limitations of the aqualung are due less to the apparatus itself than to the nature of the diver's body and the sea around him. As he descends into the sea the pressure increases by one atmosphere for every thirty-one feet, and the air he breathes is compressed in proportion to the depth. This does not in itself have any serious effect. The body is largely liquid, virtually incompressible, and sensible only to pressure where there is a pocket of air that cannot be immediately replenished from the breathing supply. The ear-drums are thus very sensitive to pressure and one has to keep swallowing or blowing one's nose to open the

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The "aqualung", perfected in 1943 by Captain Cousteau, provides the diver with a supply of compressed air, and can be safely used at a depth of 130 feet. A back view is seen on page 434

Eustachian tubes and allow more air to enter them. Very soon this becomes a matter of habit. The rest of the body is almost insensible to pressure, unless poor dentistry has left a bubble of air between a nerve and a filling. Under pressure the nerve is sucked into the air space with agonizing results. There is one other direct effect of pressure. The blood becomes slightly more viscous and the heart has more work to keep it in circulation. Thus it is dangerous to dive if one has a weak heart, and it is always unwise to over-exert oneself under water.

The indirect effects of breathing compressed air are much more serious. As the pressure increases the blood will absorb more nitrogen than usual, but when the pressure is relaxed this dissolved nitrogen begins to appear in small bubbles which start by causing violent pains in the joints and finally bring death. The effect is closely comparable to that of a "Sparklet" bulb on a siphon of water. The pressure of the gas in the bulb makes it dissolve in the water, and when the siphon is turned on, and the pressure released, the water begins to fizz. This malady is known as "caisson disease" or "the bends". The remedy is for the diver to return to the surface in easy stages so that the nitrogen has time to get out of his system without forming bubbles. However, if the diver spends only a short time below he can come up at once before enough nitrogen has got into the blood to be dangerous. This critical period depends on the depth. If you do not go below thirty-five feet you can stay down as long as you like, but you can only remain for thirteen minutes at 130 feet and no time at all at 180.

Now the amount of air that you breathe depends upon the pressure at which it is consumed: the deeper you go the faster the air is used. A single cylinder of air will last about forty minutes on the surface, but only about seven at 130 feet down. A double-cylinder aqualung will last exactly twice as long. Different people naturally consume air at different rates. A large-chested man will use almost twice as much as a small woman. But it is safe to say that if you do not use more than two cylinders of air and do not try to spend

every minute of your dive at the full depth you can go down to 130 feet without any danger. With three cylinders it is necessary to keep a strict record of the time and depth of the dive, and longer duration or greater depth is only possible if you rise in stages, which may not be easy with a limited air-supply. After you have consumed your two cylinders of air you must not dive again until the imperceptible effects have worn off. Cousteau allows a rest period of three hours. The Club Alpin Sous-Marin of Cannes forbids its members (who are all amateurs) to consume more than two cylinders of air a day.

If you venture below 130 feet there is another danger to be reckoned with, the "*ivresse des profondeurs*" or "rapture of the deep". This effect of breathing highly compressed nitrogen begins with an illusory sense of beatitude and ends in unconsciousness. Cousteau has described the crazy state of mind in which he felt capable of offering his breathing-pipe to a passing fish. The only way to obviate this risk is to breathe not air but a mixture of oxygen and some gas such as helium which is not soluble in the blood. But this is very costly.

To summarize : with an aqualung relatively inexperienced divers can go down to 130 feet for about ten minutes or can spend an hour and twenty minutes at the surface. A few veterans can go down to 200 feet and remain under for longer periods.

The sea may impose further limits. There is no point in diving in water so obscure that one cannot see more than a few inches. Such work must be left to the groping and safely tethered helmeted diver. In tidal seas one can only safely dive at slack water. And one may be severely hampered by the cold. The water at the surface of the Red Sea sometimes comes within a couple of degrees of blood heat. In summer the surface of the Mediterranean is warm enough for one to dive in a bathing costume for three-quarters of an hour without feeling too much cold. But deeper down there is a layer of much colder water which remains at a constant temperature of about 57° F. In the winter it lies just below the surface. In August it may be a hundred feet down. And the English Channel very rarely exceeds 64° F. To dive in this colder water some sort of protective clothing is necessary. It may be merely a thick sweater and woollen underpants. Once the body has warmed up the adjacent water it keeps the cold out well enough. Serious divers usually have a foam-rubber suit, often from top to toe, keeping them surprisingly dry and warm. Thus clothed one can dive in the Mediterranean all the year round in reasonable comfort. Cous-

Liberated from gravity, the aqualung diver can float effortlessly or sit as though in an armchair

H. Broussard, from The Undersea Adventure *by Philippe Diolé (Sidgwick & Ja*

s Haas, from Under the Red Sea (*Jarrolds Publishers (London) Ltd*)

The undersea landscape's 'vegetation' reveals itself to the diver's eye in deepening shades of green and blue. Much of it is not vegetable, but animal: the coral growths abundant in warmer waters are mainly the secretion of countless polyps, the living supported on skeletons of the dead

H. Broussard, from The Undersea Adventure *by Philippe Diolé (Sidgwick & Jackson)*

Some of the marine 'bushes' are living, but motionless, animals, such as (above) Gorgonia, *whose branches are "thrust dramatically like fingers from the face of the rock". Such stationary animals would die of hunger on land; the sea currents bring them their food. On the other hand* Zostera (right) *is a true plant, growing in thick tufts "like a capsized haystack" with long flat green leaves, through which we see the author 'strolling' reflectively*

Hass, from Under the Red Sea (*Jarrolds Publishers (London) Ltd*)

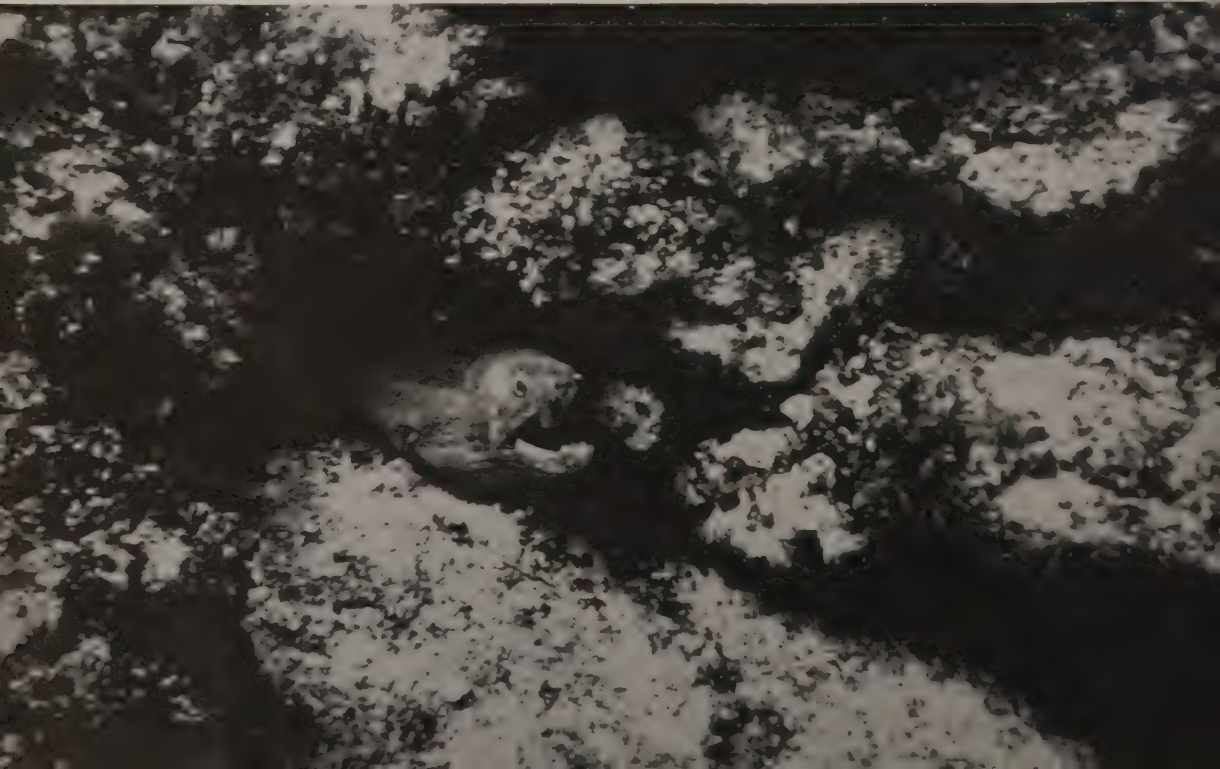
The submarine explorer may have unpleasant encounters. Barracudas (above) *can reduce a man to ribbons in no time. This shoal was driven away from Hans Hass by the arrival of some sharks, whose dangerous intentions are more easily discouraged. Other fish* (below) *may be animated only by curiosity; or, like the sea-bream* (opposite), *reciprocate not at all the diver's interest*

Hass, from Under the Red Sea (*Jarrolds Publishers (London) Ltd*)

J. Cousteau, from The Silent World Hamish Hamilton

(Above) *The octopus is not hostile; it is a shy and tractable creature, and with practice the diver can induce it to play with him.* (Below) *Though the moray eel is normally placid enough, the cold stare of its boot-button eyes and its formidable teeth give fair warning of the wounds it can inflict if disturbed*

J. Cousteau, from The Silent World Hamish Hamilton



teau has also designed a suit filled with air with which it is possible to dive even beneath the Arctic ice-cap. But I gather from Charvoz, the most capable diver I know, that when he wore one of these balloons it was all he could do to control his equilibrium.

So much for the means; what of the end? It may be a matter of scientific research. More often it is merely a "*plongée touristique*", diving for the fun of it.

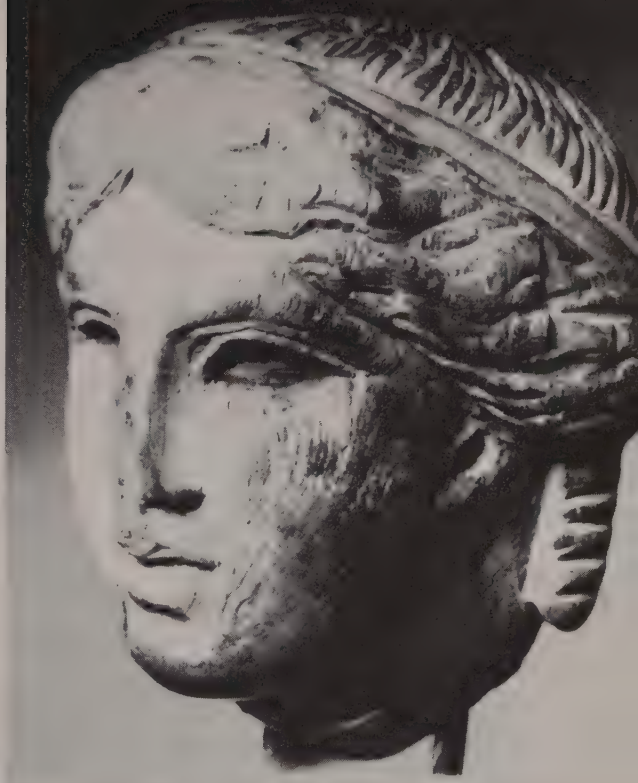
It is a delightful experience to join a flight of divers in the clear and tideless Mediterranean. You slip quietly into the sea over the side of the boat. There you find yourself lying face downwards on the surface. The bottom is just visible thirty or forty feet below, white strips of sand among a waste of grey weed. Your shadow forms a cool dark patch underneath you, and a cone of sunbeams plays down through the dusty water, converging some ten or fifteen feet below. A deep blue curtain of distant sea hangs all round. You glance up at the surface : it is a ceiling of ruffled quicksilver, gleaming and impenetrable, and you can hear a faint crackling sound, like fat spitting in a frying-pan, made by the clash of small waves. There may also be the rhythmic whirr of a distant boat's propeller. You notice a rope leading down into the grey depths and begin to swim slowly down to make your rendezvous at the anchor. There is no sense of giddiness. With dream-like movements you turn head downwards and swim slowly towards the bottom, gulping and blowing your nose as you go. The noise of the surface dies away. The warm sunbeams hardly reach this dark clear water and you begin to make out the anchor lying on top of a mat of rushy *Zostera*. Other swimming figures, all faceless, some of them clad in inhuman martian-looking rubber garments, are moving endlessly round the anchor, gesticulating gently with their legs. An intermittent plume of bubbles rises from each demand-valve. Some are no bigger than small silvery beans, others come up in great wobbling hemispheres as large as half a melon, the top being domed over a ruffled flat circle of water, a perfect model of the sea and sky.

Then the whole party takes to flight. The leader beckons you on with a slow imperious gesture, for there are no words in this silent world. You sail out over the edge of a cliff, and find yourself moving freely in space over a deep blue abyss. Here, if you have been properly weighted, there is no need even to swim. You hang in the void, with other figures all round, breathe right out and hold your breath. You sink slowly past the rocky cliff, until you choose to tread water or take a deep gulp of air. As you go down the light becomes imperceptibly greyer, you pass suddenly into a layer of icy water, and the fuzzy, weedy surface of the cliff becomes cleaner and starker. There are branches of yellow gorgonians, and later dark blue ones, thrust dramatically like fingers from the face of the rock. Then a dim sandy bottom appears far below, and the cliff begins to be hollowed and reticulated by a warren of small caves. You peer into these holes. It takes a moment to become accustomed to the dim light. Then you see a garden of sponges : dull slimy grey ones (which, however, are excellent for the bath), clumps of yellow knitting, and eruptions of terracotta, with here and there fingers of a beautiful purple-grey. From the roof of the cave hang branches of dark-brown coral, dotted with minute and icily white flowers. The quiet and lovely colours are a result of the blue light at this depth. Take any of these sponges to the surface and it becomes a garish lump of slime. Then there are anemones and shy feather-worms whose fronds vanish at the lightest touch. From the depths of a crevice emerge the tentative whiskers of a nervous crayfish, and you may come upon a suspicious moray eel swimming miraculously backwards and staring fixedly with a dark eye. And everywhere against the blue sky there are dishevelled shoals of small fish.

There are other underwater landscapes besides these cliffs : acres of dull tousled Zostera, like a capsized haystack, and deserts of brown rock with black sea-urchins in every crevice, looking paradoxically like a tract of sand and cactus in Arizona. Or you may find more brilliant arrays of sponges in arches and grottoes nearer the surface, or a tomb-like cavern as grim as a vault of Stonehenge. And the landscape in British waters is again different. Far too much of it is a mere waste of mud or sand, but in the clear cold waters south of Falmouth I found a profuse vegetation far richer than anything in the Mediterranean. I flew as it were over a large-leaved jungle and stared down occasionally into narrow bare valleys where pollack and spider-crabs hid in the shade. Everywhere I have had the same sense of weightless ease and of watching with great intensity a scene that was brought by refraction very close to my most intimate gaze.

I am not a biologist and am very aware how wasted my time staring at fish and feather-worms has been. But it is clear that the aqualung technique, even within its present limits, will enable biologists to extend their investigations beyond the low tide-mark into the per-

Explorers of the strange 'new' world under the sea discover many objects deposited there by man from very ancient times; chiefly foundered ships and their cargoes. These are especially numerous in Mediterranean waters. (Right) *An ivory head of Venus discovered in a submerged Roman villa near Fos-sur-Mer, and probably dating from the first century* B.C. (Below) *Amphorae found near Anthéor; they may be attributed to the second century* B.C. *These, the all-purpose pots of the ancient world, were often used to hold wine, and many divers have actually come upon some unbroken ones still containing wine fermented before the birth of Christ*



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manently covered shallow-water zone along the coasts. This sub-littoral zone, as explained by Dr Ommanney in the September number of *The Geographical Magazine*, is richer in marine life than the ocean depths. Various means of studying this life in its natural environment, as distinct from the artificial surroundings of aquaria, are already in use; the diving biologist can now add to them his own eyes and can thus observe in a new manner the relationships between the fauna and flora that make up living biological communities; the way their distribution and development are affected by the nature of the sea-bed and the temperature, chemical constituents and motion of the water; the sensory perceptions, behaviour, rate of growth and life-span of certain sea-animals and plants; and the efficiency of nets, grabs, rakes and other means of harvesting the produce of the sea.

A question of the last kind was decided with the help of divers, who have become adept at taking photographs under water. It had been thought that the tension on a large-meshed trawl-net, by narrowing the shape of the holes, would prevent the younger, smaller fish from getting through. Graham and Hodges filmed an otter-trawl in action, taking detailed sequences of the smaller plaice slipping through the net.

Cousteau has done similar work, and he and Hass have made records of the flora and fauna they have seen in the Red Sea and the Caribbean. Ecological surveys have begun: Diolé, in *The Undersea Adventure*, mentions several examples of diving surveys conducted in French coastal waters. The Scripps Institute of Oceanography in California has about thirty members of its staff trained to work with an aqualung, and their services were used extensively on the Institute's Marshall Islands Expedition, carrying out survey work on the coral formations at depths down to 200 feet. But so far there have been no spectacular discoveries.

The archaeological finds have been richer and more immediate. Already far more has been found than can be properly excavated, for a swimming "frogman" has a bird's-eye-view and is well suited to making a reconnaissance, though he can hardly even nibble at the sea-bed. Heavy work is better done by a helmeted diver. Scattered potsherds are to be found almost anywhere in the Mediterranean. At least six leaden stocks of Roman wooden anchors have been found on the Riviera. Several huge chunks of marble, enough to make all but the capitals of three columns six feet in diameter, have been salvaged from the Bay of St Tropez. Apparently they were the cargo of a vanished galley and were intended for a temple to Augustus at Narbonne. At least three other galleys have been found. Cousteau's Groupe des Études et Recherches Sous-Marines investigated a wreck on the East Tunisian coast which had already been rather clumsily plundered by other divers. Much of the boat was still visible and there was even varnish on some of the wood. The Club Alpin Sous-Marin discovered a vast heap of wine-jars under the weeds off some rocks near Anthéor. There are probably two thousand of them, many intact, and in 1952 I saw one come up looking brand spanking new, its cement stopper still sealed with wax over the cork. Some of these stoppers bear inscriptions which have enabled experts to discover that they came from the vineyards of the Lassii, who lived near Pompeii in the second century B.C. Unfortunately these amphorae were not properly glazed and their contents are brackish and quite undrinkable. I visited the wreck again last June and saw that someone had been clearing away the jars and had exposed several beams of spongy grey timber in the middle of which a large pallid octopus was watching us with a bilious eye. Only at Grand Congloue near Marseilles, where all Cousteau's resources are being put to their full use, does there seem any hope of a thorough excavation being done. The galley is at the limit of practicable working depth. Teams of divers armed with suction pumps to clear away the mud have been at work for nearly a year. They have brought up a vast deal of the ship's cargo—chiefly wine-jars—and Cousteau eventually hopes to raise the ship's hull to the surface. If he succeeds this will be a valuable as well as a remarkable feat. Surprisingly little is known of the details of classical ships and this one so far seems to be largely intact.

Apart from shipwrecks there are occasions when the earth slips into the sea, and the ruins are not completely obliterated by the ceaseless action of waves and tide. A Roman villa has been carefully excavated at Fos-sur-Mer and has yielded a most lovely ivory head of Venus. Roman platters have been found on what may once have been an island in the Thames estuary, but it remains to be seen whether anything useful can be done with an aqualung in these cold, murky and turbulent waters.

The ubiquitous story of the sunken church whose bells can be heard ringing to warn of a fatal shipwreck is, alas, only a fable, nor is there any hope of flitting like a ghost through a drowned city. But the reality under water is as strange, as rich and as lovely as anything that has been invented even by poets.

My Worst Journey—I

by SIR HARRY LUKE, K.C.M.G., D.LITT.

With this article we begin a series in which some of our more distinguished contributors place their memorably abhorrent journeys in scales of badness which they have chosen for themselves. It has been said that what the traveller gets out of a journey depends on what he brings into it; and the chief interest of the series may well be found to lie in the different personalities of the writers and their varying approaches to the subject. The second volume of Sir Harry Luke's memoirs of a life of world-wide travel, Cities and Men, *has just been published by Geoffrey Bles*

As an Oxford undergraduate I used to attend, with profit and pleasure alike, the stimulating lectures of the University Reader in Geography, Mr Halford Mackinder. Some fifteen years later the Right Honourable Sir Halford Mackinder, as he had become in the interval, came once again, in rather different circumstances, within my line of vision. In December 1919 he arrived in Constantinople on his way to assume the duties—ephemeral in the event—of British High Commissioner in South Russia. I was then serving as Political Officer on the naval staff of Admiral Sir John de Robeck, holder of the dual posts of Commander-in-Chief of the Mediterranean Station and British High Commissioner in Turkey.

Sir Halford Mackinder had been travelling overland, and travelling as a V.I.P. should. From Sofia onward he had been the honoured occupant of the royal coach built for King Ferdinand, which had been placed at his disposal by Ferdinand's son, the young King Boris. It was panelled in claret-coloured brocade; its fittings were of solid silver; its other amenities included several sleeping cabins, a roomy dining saloon, a tastefully upholstered lounge and a bathroom. It was the last word in comfort and elegance on wheels.

It happened that Admiral de Robeck was at that time sending me to London, charged not only with carrying urgent official despatches and personal letters regarding the future of Constantinople (then under active discussion in the Allied capitals) but also with supplementing the correspondence, if required to do so (which I was), with oral information. Speed was therefore of moment, and it was thought that I would reach London from Constantinople more quickly travelling across country, seeing that trans-European railway communications had just been reopened after the war, than by sea. Meanwhile, since Tsar Boris's coach had to return, another officer and I were now offered its hospitality as far as Sofia. Late on Sunday afternoon, December 28, 1919, we boarded the train to which it was attached, were taken charge of by the royal footmen and were soon sitting down to a *recherché* little dinner of bortsch, red mullet *en papillottes*, Wiener Schnitzel and a bottle of Mouton Rothschild from the royal cellar.

Had I been endowed with the gift of prophecy I would have chosen to begin the journey not only in more modest but even in less stable (I might almost say static) surroundings: in other words, in a destroyer ploughing the midwinter seas of the Mediterranean. For we awoke to find ourselves halted at the Turco-Bulgarian frontier at Svilengrad and learned that the entire country was in the grip of a railway strike that was paralysing all transport. It was the worst winter the Balkans had experienced for some forty years and weather conditions on the war-damaged and neglected roads made it impossible for motor vehicles to relieve the immobilized trains. However, after a hold-up of thirty-six hours we managed to reach Sofia on the morning of the 31st, and at Sofia I left the only King's coach in which I have travelled, with considerable misgivings as to the next stages of my voyage.

The misgivings were abundantly justified. From the outset everything went wrong. Sofia was heavily congested and I had the ill fortune to be billeted in an hotel otherwise occupied by roistering and completely uncontrolled French soldiery. Throughout the night they created unbroken pandemonium (the only unbroken thing in the hotel), ending up the following morning with hurling a piano from a top-storey window onto the street below. It is from this experience that I date my dislike of seeing in the New Year. Happily I found another billet for the remainder of my involuntary stay.

On the railway front things got worse rather than better. And Sofia, the least interesting of Balkan capitals, had few attractions in quasi-war conditions and in winter for a marooned

officer charged with a pressing duty and straining at the leash. On January 4 there was finally assembled a train of sorts headed for the Serbian frontier, and I sat in it with a lightened heart until it reached Tsaribrod, then the last station in Bulgaria, where it packed up. Why it went even that far I never understood. And now the *dégringolade* really set in. After some hours of shivering on the platform of the abandoned station we persuaded our engine-driver to take his engine, and us on it, the twenty-odd miles across the frontier to Pirot. Once here, we supposed, safely out of the strike area, it would be plain sailing; but not so. The Serbs, we found, were allowing no trains into strike-bound Bulgaria and no-one, apparently, was wanting to go just to Pirot. So there were no passenger trains on their way back to Belgrade.

Fortunately for us, cattle were travelling where men were not. The cattle-train included one windowless fourth-class carriage in which we spent the ensuing two nights and one-and-a-half days, since the cattle were obviously consigned by what the French call *petite vitesse*. For nourishment we had to rely on a small lump of cold pork and a bottle of slivovitz (plum-stone spirit) which we were lucky to buy off some peasants at Pirot; there was literally nothing to be had at Tsaribrod, where we became aware of our predicament. I could not help contrasting rather bitterly this inadequate and definitely unbalanced diet with the bortsch, the mullet, the Schnitzel and the Mouton Rothschild which I had hoped were going to set the standard for the meals of the journey. And the nights were spent in total darkness as the snow was blowing far too hard through the empty window-frames to allow us to light a candle. The Orient Express standing in Belgrade station when we crawled in seemed like a life-line to Paradise.

I have used the plural "we" because I was not travelling alone. In the Sofia-Tsaribrod train a family of Russian refugees sharing my compartment, a man and three women, threw themselves on my protection (for what it was worth); and no family could have needed more desperately all the help they could get. The man had been a well-to-do manufacturer and he and his ailing wife had been badly shaken, physically and morally, by their sufferings under the Bolsheviks. Their escape was not made easier by their having with them the wife's mother, a semi-paralysed, heavily built old woman of eighty-three. Had it not been for their niece they would never, I am sure, have made even Sofia. Young Anna—pretty, *petite*, blue-eyed, a jaunty little astrakhan cap perched on her golden hair—took on the family responsibilities with a pluck, a spirit, a gaiety in the face of adversity, which were little short of heroic.

I still marvel at how she and I achieved the seemingly impossible of humping the old woman from coach to platform, from platform to engine, from engine to cattle-train; at how we kept her from freezing during the interminable waits at deserted stations, and later in the icy cattle-train, by means of doses of slivovitz. She, too, must have possessed astonishing courage and vitality to have reached Belgrade alive.

I cannot say that the return journey after twelve days in England was notably more comfortable than the outward one. The Orient Express having now resumed running as far as Bucharest, I again travelled overland and arrived in Bucharest only twenty-eight hours late. But, if Sofia had been congested, Bucharest was jam-packed. The first Parliament of Greater Rumania was assembling and the hotels were overflowing with Deputies from the extensive territories assigned to Rumania after the war. With difficulty I secured, in a third-rate hostelry, a bed in an improvised dormitory already occupied by seven legislators from the new provinces.

Now receiving cheering (but illusory) reports on the Bulgarian strike, I decided to continue by rail rather than by the normally slower sea route from Constanza. The Legation sent me in a Ford van to the Danube at Giurgiu; from Giurgiu I was to cross the river to Ruschuk on the Bulgarian bank and carry on by train via Sofia. The cold was the most severe of my experience although I have known winter in Lapland and Tierra del Fuego; ice blocked the Danube ferry; and I took refuge in the local inn, in bed, the only place where I could keep warm. The next day I got over to Ruschuk.

And the same afternoon the first train for over a month set out for Sofia. The pressure on the accommodation was therefore considerable: we were sixteen in a compartment designed for eight; the corridors were wedged with people; even the lavatories were permanently occupied by as many as they would hold. An incredible amount of shunting occurred at every junction and it took us fifty-six hours to cover the 200 miles to Sofia. There on this occasion—and not before it was time—my troubles were at an end; the trains to Constantinople were now running normally.

It was certainly no time, that winter of 1919–20, for travel in South-Eastern Europe.

The Irish "Travellers"

by A. L. LLOYD Photographs by LEONTI PLANSKOY

By tradition, the Irish are a pastoral people, and racy with it. Accounts of fairs and horses are part of the epic stuff of their native literature, from the flashing old hero lays to *The Sportin' Races of Galway* with its description of

> The lozenges and oranges, the lemonade and raisins,
> The gingerbread and spices to accommodate the ladies,
> The ramblers, the gamblers, the thimbles and the garters
> And the sportin' wheel of fortune with the four and twenty quarters . . .

Some will tell you that Ireland's economy was built on the horse, that her great riches were in the bone-making limestone of the Curragh, that each cavalry battle in Europe meant money in Munster and that the only serious business rival to the sly Irish coper was the *csikos* of the Great Hungarian Plains. Nowadays the dragoon and hussar regiments ride in tanks and much of the life has gone from the Irish horse-country. That may be a reason why Limerick is said to be "the only city in Western Europe where, in the middle of the main street at the busiest time of the day, a bittern might be observed standing on one leg."

If local claims are to be believed the oldest and greatest horse-market in Europe is the Cahirmee Fair, nowadays held in Buttevant, about halfway between Cork and Limerick. For much of the year, Buttevant has the quiet abandoned look of many a Munster town—small shops down a long street where occasional cattle wander; the school teacher in the come-down hotel, his examination papers strewn over a decrepit billiard table formerly played on by English officers; the shell of the burnt-out barracks, grassgrown now and used as a hurling pitch. But about the third week of July Buttevant comes to life with the horse-fair.

The quiet town is shaken with a tremendous bustle, knots of horses trot along the road in a cloud of limestone dust, with the drovers whooping behind. Spring carts and sulkies rattle by. At the cross-roads on the edge of the town, groups of men sprawl on the little green or prop up the signpost to Mallow. Their attitude is lazy but their eyes are sharp,

watching the hunters, the cobs, the Connemara ponies streaming past. According to legend, a century ago the six hundred gallant horses of the Light Brigade had left their farms before dawn to clatter into Cahirmee. A century and a half ago, they tell you, the pride of the fair was a horse which eventually became famous as Marengo, Napoleon's favourite charger.

The town fills with newcomers, whiskey-faced men with breeches and crops, ladies who have the sound as well as the look of horses, shabby copers with a reputation for being worth "gallons of gold", escapologists, wheel-of-fortune operators, sellers of web halters, and the vagrant horse-dealers whose caravans are parked in a line along the verge of the Limerick road.

Some call these itinerants the gypsies of Ireland. Most people call them tinkers. Gypsies they certainly are not, and only a proportion of them are tinsmiths, the rest being sweeps, hawkers, dealers in asses and horses. They have their reasons for resenting the term "tinker", and prefer to speak of themselves and their kind as "travellers".

The travellers wander from place to place, generally along well-worn routes running from east to west and back again, begging, plying their trade, following the fairs. They have a reputation for being cat-footed folk not always averse to pilfering; and stolid citizens find that their most baffling characteristic is their quick and unpredictable switch from obsequiousness to pride and back to blarney again. It will be noticed that I write of them as a race apart, and so to some extent they are; but it should be remarked that not all the travellers have the same ways, use the same phrases, sing the same songs, or travel in the same kinds of waggons along the same routes. Theirs is a subtly graded society, whose degrees are not all measurable in terms of wealth or nature of trade or area of operation.

It is often said that the vagrants of Ireland are an ass-owning folk and that their characteristic gait is timed to keep up with the trotting donkey, but in fact horse-dealing is an ancient trade among the travellers of the South-West and it is possible that some of the 'aristocrats' of the business—the Sheridans for instance—may have been horse-traders for a thousand years.

The horse-dealers. "Their attitude is lazy but their eyes are sharp, watching the hunters, cobs and Connemara ponies." Centuries of experience underlie their appraisal

Unlike the ordinary craftsmen travellers, the traders usually move about the countryside in caravans —some poor shabby things, others bright red-and-green wonders with brass lamps and mirror-glass and trinkets and ovals on the greased harness. To the admiration of their fellows, one or two families have lately turned up at the horse fairs in trailers drawn by second-hand cars. In this respect the Irish traveller is several years behind the Continental gypsy: at the big Romany gatherings at Saintes-Maries-de-la-Mer, for instance, trailers outnumbered caravans by five to one even before World War II. The Irish traveller, particularly the tinsmith, always tended to live rougher than the gypsy. Half a century ago, the travellers went on foot and begged for shelter in barns of a night or slept under the hedges. The hooped "tinker tent" was rarely seen before the Boer War and the "tinker cart" was unknown. It would seem that many travellers joined the army to fight in South Africa, and Mr Patrick Greene of

The Cahirmee horse-fair was formerly one of the greatest in Europe. It echoed with foreign haggling, the cries of thimble-riggers, the roar of battles that left many a vagrant "rolling in his gores of blood". Now that the demand for horses is waning, the glory is departing from the wild itinerant horse-dealers and from their fair

Children abound in traveller communities : early marriages are the rule and long courtships are rare. Indeed, if an unmarried man is seen walking alone with a single girl, he will probably have to marry her or fight her brothers. Children are generally well fed, well loved, but little coddled and less kempt. Road verges are their playground and—paper being scarce in the caravans—carriage ways are their scribbling blocks. This worries the police much more than their parents

Half a century ago, Irish travellers lived at a level considerably below that of gypsies: groups travelled on foot, slept where shelter could be found. The adoption of the cart and tents made them more mobile, more domesticated. Horse-traders borrowed the idea of caravans from the gypsies. Now some travel the country in motor-trailers, to the admiration of their fellows. In Mrs Bryan's trailer, breakfast is served in relays, with the washing-up bowl within easy reach on the table

A leader among the vagrants is Mrs Dan Sheridan, widow of a traveller king. Mrs Sheridan was not born a traveller: she is a farmer's daughter who took to the road. She has enormous prestige among itinerants because of her forceful character and the fact that she can read and write; in police-courts she has fought ardently for vagrants' rights

Many horses sold by travellers are fine sound beasts; others, seemingly skittish, turn out to be spavined, ring-boned or string-halted. Travellers are masters at concealing a horse's faults when selling and detecting them when buying: hence farmers and tradesmen often hire a traveller to buy for them. The man in the Tyrolean hat is such an agent

This blind ballad-singer goes with his daughter from fair to fair singing in a voice trained for the open street. The vagrant horse-dealers are among his most attentive, most generous listeners. His repertoire is drawn from the excitements of Ireland's past: King James the Royal Blackbird, Bold Robert Emmett and Kevin Barry ("another martyr for old Ireland, another murder for the crown") live again in his songs

Longford, who is an expert on the life of Irish vagrants, suggests that they first bought carts with their army pay on their return. Until that time the traveller had moved his gear in two sacks across an ass's back.

Nowadays the usual traveller camp, away from the territory of the proud horse-dealers, is marked by a huddle of asses and children and tipped-up carts and a scatter of low dark tents which have been described as "elevated burrows", for they are built as a cylinder split lengthwise. Frequently they are made of tarpaulin on a frame of timber and hazel twigs.

If the travellers vary in trade and livingways, they also vary in physical type. The characteristic Western "tinker" is a lithe yellow-skinned black-haired man, while a horse-dealing Southern traveller is often tall and red-haired. Though the tinsmiths seem fairly unrestricted in their movements the other travellers appear to remain within certain bounds, to move across a vaguely defined strip of country, avoiding certain areas, perhaps on account of family feuds, or former trouble with the police.

Family loyalties are strong and patterns of family behaviour clearly marked. The police along the horse-trading routes expect little trouble from the proud authoritative Sheridans, but when the Ryan faction is camping anywhere near the McCarthy faction the telephone wires begin to buzz between one police-station and the next. Not long ago one of these faction-fighters stood in court and received his light sentence with the ringing epic boast: "Be Jasus, next time I'm in quod it'll be for murder".

The travellers are fierce fighters especially skilled with sticks. Fights are not unknown in the encampments, particularly on fair nights when the drinking is heavy. Sexual jealousy is perhaps the commonest reason to set off a "proving match" between two fierce vagrants but often the cause is more obscure. I once saw two travellers batter each other bloody in the firelight, amid the whoops and screams of their womenfolk. I asked one of the women what the trouble was and she replied: "Davy said Tom's article was dirty". I have often speculated what that "article" could be.

Even among the horse-traders, begging is as much a part of life as bargaining. But the traveller contrives even to cadge with a swagger that has almost disappeared from Europe since Villon's day. "Have you a coin for a fellow who's sick from drink?" is a common enough formula, spoken in a tone of pride, of contempt almost. Indeed, I have known travellers who declare that their dislike of gypsies arises from the obsequious methods of gypsy begging: "They'd wriggle their bellies in the mud for a copper." It may be said that the dislike between traveller and gypsy is mutual. Gypsies are few in Ireland and are relative newcomers, seldom seen before World War I. Padraic Colum has remarked how, in their vans, the gypsies have far more of the civilization of hearth and cradle than the Irish travellers, and indeed, in comparison, their life seems one of grace and homely comfort. Travellers call the gypsies "gillygoolies" (perhaps because of their incomprehensible Romany tongue: just as American soldiers called Koreans "gobbledegooks", shortened to "gooks").

Another traditional ground for dislike is the fact that the travellers are Catholics to a man, whereas the gypsies are Protestants if anything. For all that, there has been a certain amount of successful intermarriage over the last few years, especially among the "whitesmiths" of the North.

The Catholicism of the traveller is a thing some priests are sceptical of. Damnation and the clock of hell that ticks "For ever! for ever! for ever!" play a great part in the beliefs of vagrants. Their visits to church are few but they have their favourite priests scattered about the countryside to whom they go when in trouble, and whom they trust to draw their family allowance each week. Incidentally, despite the popular belief that the marriage ceremony of travellers consists of "jumping the budget"—that is, leaping over the tinker's tool-box—the vagrant is nowadays married in church, and sometimes with more ceremony than settled citizens can afford.

Where do they come from, these obscure averted people? Are they indeed the remnant of a huge underworld that has persisted since ancient times, as some historians believe them to be? We know that the social structure of early Ireland was a complex affair of local kings, nobles, freemen, slaves and homeless vagabonds resembling the outcastes, the untouchables of India. One theory is that the modern traveller is the lineal descendant of this ancient vagrant race, and as part of the evidence, the scholars point to the secret language of the travellers which is said to contain reminiscences of hidden languages of the past. Modern research seems to indicate that, in fact, the travellers use two or three different lingoes in varying degrees, particularly Sheldra and Gammon, and that these are mainly modern inventions, deriving partly from English or Irish back-slang (lakin = colleen = girl; cam = mac = son; nuspog = spoon og = little spoon) or from the thieves' cant of Shakespeare's time (gami = bad, as

The horse-fair is over. Some travellers have deals to celebrate, others have disasters to forget. Either way it calls for a drink. Drinks till the police come rattling at the door. And after that. Drinking means music, storytelling, perhaps a fight. A grand night, the end of the horse-fair

we still speak of a "gammy" leg).

The travellers are beginning to feel that the times are leaving them behind. Those at Buttevant this year were wondering what is to happen to them with the horses getting fewer and the prices falling lower, and events becoming more hard to understand. Recently the horse-dealing brotherhood tried to branch out in a new line. The Americans were in the market for feathers—something to do with armaments, so the rumour said. Eisenhower became President, and he was a general, wasn't he? And surely the demand for feathers would go up now and stay up? The travellers, moving as they do, were well placed for feather-collecting, and some families had accumulated £2000-worth when the Korean armistice crept up on them and left them brokenhearted. "You see, sir," they sadly explain, "we can't read the papers and it isn't so often we hear the wireless news either, so we're hindered for the speculation."

As evening falls on the streets and the green where the horse-bargaining is done, the ex-wrestler Jim Cully, seven foot two, nineteen stone, and manager of Perks' Amusements, strolls among the swings and dodgems and the wheels-of-fortune. In some public houses fortunate enough to have a back door as well as a front one, the drinking goes on long after the patient police think it should. The thin jazz from the Legion Hall dance disturbs the chickens till past midnight; and round the encampment fires along the Limerick road the travellers are making their plans for the big Puck Fair at Killorglin and wondering what the prospects are, and how long it will be before the vagrant horse-trade "that goes back beyond the Danes, sir, so it does," vanishes for good and the travellers with it.

America on the Screen

by RICHARD GRIFFITH

In our April number Dr Manvell, Director of the British Film Academy, explained the scope of a series of articles which we are publishing with his collaboration. The first group of articles peals with countries in which film-making has for some time expressed the national spirit; and previous articles have considered French and British films from this angle. Mr Griffith, who is a film critic and historian of repute and is the Curator of the Film Library at the Museum of Modern Art in New York, now describes the film as a mirror and agent of change in American life

In 1945, when Eric Ambler arrived in the United States to gather background footage for his British Army film, *United States,* I was assigned to assist him. Day after day, for weeks at a time, he asked me for more and more footage of mountains, deserts, wheatfields, highways, plains, forests. His appetite for scenery seemed insatiable, and I began to wonder whether this film attempt to explain Americans to British soldiers would prove to contain a single inhabitant of the United States. He sensed my bewilderment and explained: "The biggest fact about America is its bigness, and this is what Europeans who have not been here have most difficulty in grasping. I must fill the screen with the American land, the backdrop against which your civilization developed."

I saw his point, but wondered at it too. The motion picture camera has been filling the screens of the world with the face of America since filming began, almost to surfeit one might suppose. But yet again, when you consider it in isolation, his point deepens. A backdrop, no matter how mighty, is less eye-catching than what is played before it, and the movie through most of its history has tended to focus more and more intently on a category of dramatic action which leads the eye away from the backdrop and tends to conceal its determinant effect on the action itself. The movie was born at the beginning of what Frederick Lewis Allen has called "the big change", the biggest change in human history, the industrialization of much of mankind in less than half a century. The movie has been a mirror of this change, and an agent: it might even be claimed, the principal agent. Other mass media have played leading roles in constructing the image of mechanized civilization, but the movie did it first and did it most vividly. Of the machines which changed our lives, only the automobile rivals the movie in the scope and inevitability of its influence.

The ability of the movie to mirror change vividly has determined its social role, and incidentally its course as an art. Its social role has been to show the millions what they had always wanted to see and to have and what now, thanks to mechanical progress, they might conceivably get. Critics of the movie as an art have complained of it from its beginning that it always shows people what they want and what they want to be, and seldom what they have and are. This demand for realism was in itself perhaps the most unrealistic critical attitude that could have been adopted. The screen's ability to take the poor into the lives of the rich, to bring the exciting to the humdrum, released a torrent of human desires which no aesthetic canon could withstand. The Marxist students of the film understood this better than others, though they drew inaccurate conclusions from it; Harry Alan Potamkin wrote: "The cinema is both response to and agent of the dominant class in society." I should change that to read "the dominant wishes" in *our* society. For, even in this latter and dourer stage of industrial democracy, the wish is all-powerful.

So the movie has gone on showing us more and more of the bathtubs of DeMille, the penthouses of Clark Gable and Joan Crawford, and the machine-guns of Chicago, less and less of the designing boards and assembly-lines which produced the bathtubs and penthouses (and the machine-guns), still less of the mines and fields from which came the metal and coal and fibre and oil that made all this possible. There of course have been exceptions. The "regionalism" which perfunctorily invaded American literature for a brief spell has also appeared sporadically on the screen, but the ideal of small self-contained cultures wedded to the characteristics of specific sections of the country has been able to withstand the tide of urbanization no better in fiction than it has in fact. A second exception, more important because it was based on a wish rather than on an ideal, occurred at a time when the wishes of a large part of the motion picture were directed chiefly, not at wealth

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In the early screen melodramas of America the heroes and heroines were often country folk, the city the source of their ills: in Way Down East (*1921*), *a late film of this kind, Lillian Gish played the part of an orphan with an illegitimate child, thrust out into the snow by her master*

and power, but towards knowledge and social and economic justice.

The primitive movies of the early 1900s inherited from the popular stage a stock of melodramas greatly to the taste of such of the American public as the Puritan tradition yet permitted to attend dramatic entertainments. As befitted their predominant audience, they were largely rural in theme and background: *Uncle Josh Spruceby, Sag Harbor, A Drunkard's Reformation*—D. W. Griffith's *Way Down East* (1921), the last greatly successful one, could well stand for all of them. They dealt with womanhood wronged, the evils of drink, the exploitation of the farmer by the banker, and their milieu was nearly always that of country life. The city was portrayed, when it was portrayed, as remote, dangerous and fascinating. For the city was both wicked in itself and the specific source of the evils which came to afflict country-dwellers. The heroes and heroines of these dramas were nearly always rustics, the villains nearly always city folk—"city slickers", in a phrase now remembered only in mockery. Such entertainments, reflecting a morality and social view which even the Puritan tradition could not but condone, had pleased America for three-quarters of a century, and it was natural that they should constitute a staple of the budding movies, which indeed they might have been expected to dominate. But very soon the traditional themes of rustic stage melodrama were rivalled by a new subject-matter, treated in a new way.

In these new films, the city was not the site of glamour and evil, but the drab habitat of poor, miserable and ignorant human beings who were ground by want, exploited by the rich, oppressed by the constabulary, discriminated against because of national origin, cheated of their rights by employers, and prevented from rising in the world by the snobbishness of their betters. The primitive realism of these capsule dramas of urban life is extraordinary when seen today, after years of censorship and caution. One of the last and best of them was Thomas H. Ince's *The Italian* (1916), in which an immigrant leaves his (possibly rather idealized) Venetian home

to embark for the land of promise. Instead of streets paved with gold, he finds the slums of New York, complete with squalling babies, open garbage cans, and milk bottles on the window-ledge. The escape from this which Mr Ince provided for him, one which portended as much in films as in life, was crime.

This realistic genre came into dominance by the wish of the earliest movie audience. The hero of *The Italian* and of countless other films of the period was an immigrant, and immigrants composed a large section of the audience. The period between 1870 and World War I marked the peak of European emigration to the United States, and most of the immigrants came from southern Europe. Packed into the great cities of the eastern seaboard, speaking little or no English, they were most miserably treated (Chaplin's *The Immigrant* (1916) speaks eloquently of that treatment). The movies of the nickelodeon days were the only entertainment available, and they flocked to them. There they learned English, there they were introduced to American life, and there, increasingly, they saw their own plight reflected on the screen. For, just because the movies were regarded with scorn by the upper classes—as, at best, the "poor man's show", at worst a breeding ground for vice and crime—the movie business itself lay open to new immigrants who found it difficult to make their way in more respected businesses. As a result, the owners of nickelodeons and "store shows" were more often than not Zukors, Loews, Goldfishes, Foxes who, themselves newly arrived in America, knew at first hand what their audiences wanted to see on the screen.

They wanted to see their own lives dramatized, their sufferings sympathized with, their national origins and characteristics understood. Most of all they wanted to learn, for they thought that education held the key to advancement. So it was that, toward the end of this period, social workers and the few others who descended into the hell of immigrant life began to realize that the movie was not only the poor man's theatre but his university as well.

The importation of *Queen Elizabeth* and *Quo Vadis?*, and the production of *The Birth*

The films reflecting the next "image of the American wish" appealed to a new audience: that of the millions from Europe recently crowded into the cities, who saw "their own lives dramatized". The Immigrant *(1916) showed Charlie Chaplin as an embarrassed helper of his fellow-immigrants*

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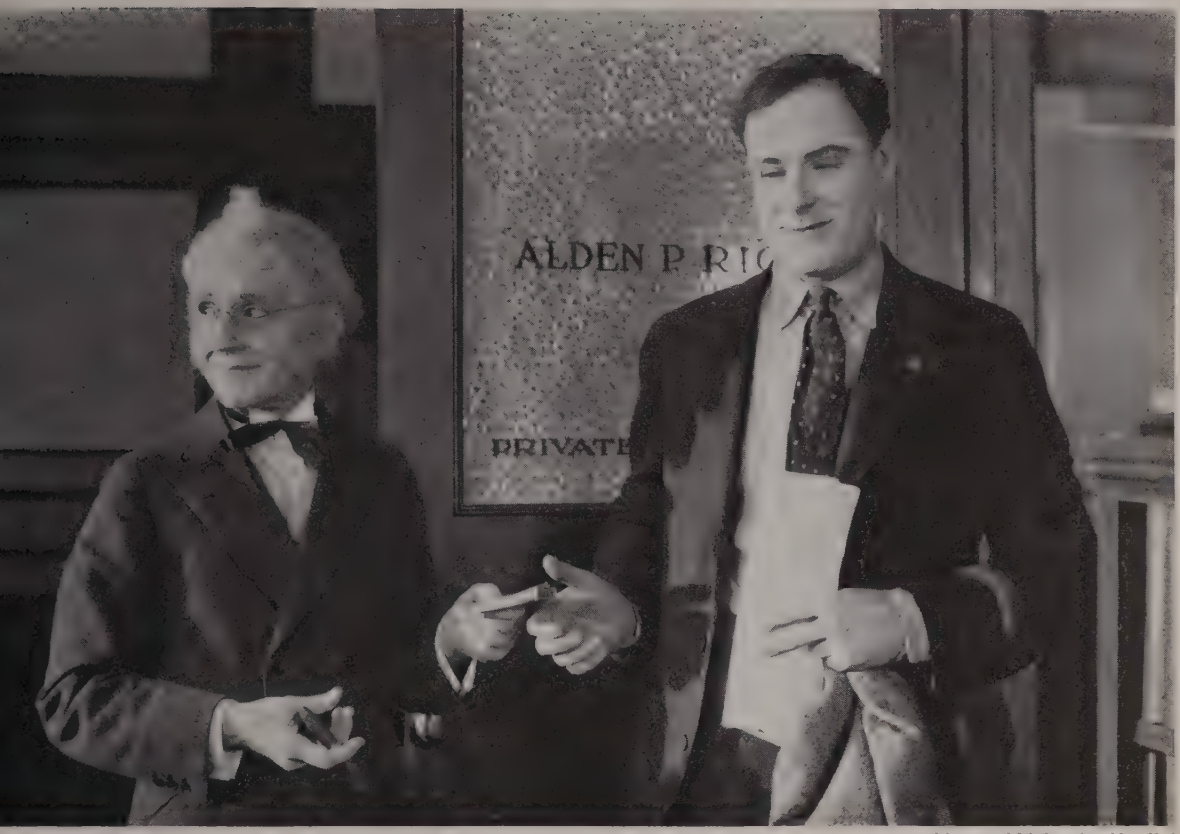
During the 1920s, as America grew more industrialized, the city ceased to provide a background for rustic melodrama or urban realism, becoming instead a scene of luxury to which all aspired. This world, where "attractive people did reckless, adventurous things", was shown to cinema audiences in the films of Cecil B. DeMille, such as Forbidden Fruit *(1921). In it Agnes Ayres was a poor seamstress who posed for a wealthy woman as her dinner guest in order to vamp a rich man*



Museum of Modern Art, New York

Entry to such a world required wealth, to be acquired "by hard work and/or luck and pluck". In The Go-Getter *a good job and a loan from the boss are steps towards this desirable consummation*

of a Nation, revolutionized films by making them respectable and adding the middle classes to their audience. This revolution had the effect of gradually banishing both Victorian melodrama and urban realism from the screen, and replacing both by a species of drama reflecting the industrialization and consequent urbanization of American life. As always, the screen was reflecting a change which was also taking place in the tastes of audiences. Not alone the new middle-class audience, but also the old movie audience of children, immigrants, and the uneducated, now wanted to see films about luxury and adventure. The disillusion which followed World War I had fatally weakened the idealism and progressivism of Theodore Roosevelt and Woodrow Wilson which the early films of city life had often reflected; it had banished to the attic the Puritan and Victorian traditions of bucolic melodrama. It is no accident that the decade 1918–1928 saw the decline of D. W. Griffith, the master alike of realism and melodrama, and the supremacy of Cecil B. DeMille.

Mr DeMille introduced his audiences to a world where attractive people did reckless, adventurous, unconventional, sometimes foolish but always exciting things against a background of luxury. It was also, often, a background of vulgar ostentation, but this mattered little to anyone so long as it was sufficiently voluptuous and so long as it was always changing. The countryside does not change that fast, therefore the DeMille films were urban in setting as well as *soi-disant* urbane in style; if a glimpse of the country crept into such films, it was apt to be the country club. Few questioned, in the 1920s, that this was a world which everybody wanted to enter, in reality and on the screen; the question was how one went about it. Although Henry Ford and the assembly-line had already come into prominence, not many in the movie audience could foresee that the progress of industrial techniques would make available to the millions luxuries formerly exclusive to the rich. The screen, then, could only fall back on the American creed known as the Horatio Alger tradition, which postulated that, by hard

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The depression caused dreams of achieving wealth by reasonably honest means to slump with the stock-market. Quick Millions *(1931) typified the gangster film in which organized crime reaped the rewards so manifestly denied to people who followed the traditional canons of business success. The "smart guy", though too lazy to work, uses his brains to make others steal for him*

British Film Instit

Under Roosevelt's New Deal the movies crusaded for social reform. John Ford's The Grapes of Wrath *(1940) depicted exploitation in California of poor farmers fleeing from the 'dust-bowl'*

work and/or luck and pluck, a contemporary American could amass enough wealth to enter the charmed circle where the DeMille heroes and heroines disported so excitingly.

Since hard work appealed neither to Hollywood nor its audiences, luck and pluck it had to be; they might have been the watchwords of the twenties. In the films of the period, a heroine might achieve wealth by marrying it (despite feminism, only very exceptionally was she shown earning money herself). A hero could also marry wealth, or more properly the boss's daughter (but only after he had exhibited a sufficient amount of pluck). He could achieve wealth by inventing a gadget which would "save the business" or found a new one (the inspiration for his invention seldom came from long hours at the laboratory bench, more often it came to him in a dream). Or wealth might arrive of itself as a reward for derring-do. A single film of 1927 well illustrates the magical thinking which dominated most films of the period. In Gloria Swanson's *The Love of Sunya,* Miss Swanson's father, a wealthy manufacturer, has suddenly lost all his money. What shall she do? To marry the penniless engineer of her choice and go off to South America to build bridges is no solution to her family problem. Shall she, then, marry the aged banker who will recoup her father's fortunes, or shall she continue her musical studies and earn a fortune as an opera singer? In a crystal ball, a guru shows her what will happen if she makes either of the two last-named choices (I cannot here go into the guru's reasons for thus accommodating Miss Swanson; they have to do with a prologue in which both are seen as votaries of Isis in ancient Egypt). Needless to say, both these materialistic courses are seen to end in disaster, and the crystal ball additionally reveals that the penniless engineer will one day return from South America rich and famous because of his bridge-building. But this desirable eventuality does not solve her father's more immediate problem. It is solved by her younger brother, a minor figure hitherto, who suddenly comes forward with an invention which, when exploited, will clear his father's business of debt. Moreover, he has providentially met on the street a college chum whose father "believes" in him to the extent of backing the invention. Regrettably, in the rush of rejoicings which close the film, this college chum and his believing father are not

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American film-goers escaped from the uneasiness of the 1930s into musicals or "screwball comedies". (Above) Top-Hat (*1934*), *with Fred Astaire and Ginger Rogers, made their reputation as a team.* (Below) *Gary Cooper and Claudette Colbert in a satirical comedy,* Bluebeard's Eighth Wife (*1938*)

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Peace and mass production brought plenty—especially for suburbia. In The Best Years of Our Lives *(1947) Dana Andrews, as a returning soldier, finds happiness in this well-stocked world*

introduced to us; they would require to be seen to be believed.

These dreams vanished with the bull market which symbolized them. I have described in *The Film Till Now* how, as the shock of the depression was felt in Hollywood, the DeMille ballroom and country club, inhabited by people of wealth and position, were replaced by the skyscraper penthouse, inhabited more often than not by gangsters or loose ladies or both. The generic film of the early depression was probably *Quick Millions* (1931) which recommended, as a substitute for any part of the Horatio Alger formula, the organization of crime on a business basis, and implied that the only significant difference between crime and big business was that the one was chaotic, the other well organized. The feminine counterpart of this film sermon to the American male was Helen Twelvetrees' *Millie*, also 1931, in which Miss Twelvetrees is seduced and loses her "reputation". Barred from all respectable activity by this, she has no choice but to enjoy the furs and jewels and penthouses bestowed by a series of lovers, some of them gangsters. She doesn't want to, no, but she can't help it, the world won't let her be good. This neat solution of the conflict between traditional morality and the facts of feminine life in 1931 was further upheld in a series of "confession" films which, with the gangster film, held the screen unrivalled throughout the remainder of the Hoover administration. A historian surveying the box-office successes of this period might well conclude, from what he saw on the screen, that the American people had lost faith in their government, their institutions, and their moral code, with the canons of business success singled out for particular scorn. "Work and save", the traditional maxim of American individualism, seemed replaced by "anything goes"—why not, everybody's doing it.

With the inauguration of Roosevelt and the partial return of "confidence" in America, the respectable, deeply alarmed by all this movie cynicism, felt free to exert pressure on Hollywood which resulted in a form of self-censorship known as the Production Code. This Code, in brief, enjoins that evil always be punished and never condoned on the screen. It also makes difficult criticism or ridicule of the government, the armed forces, the bench, the cloth, the learned professions, and the "accepted standards of morality". It does not ban the portrayal of the gangster and the loose

lady so long as their philosophies are denounced rather than upheld. I leave it to the hardened moviegoer to judge for himself how far the Code is more honoured in the breach than the observance, with what vitality violence and sex persist on the screen however disguised or excused, and to what extent the cynicism of the depression films still subterraneously exists and Delphically expresses itself in films today.

If the history of the Code has often seemed a covert duel between its administrators and the producers of films, there were strong reasons for this. After its enactment, Hollywood was on the spot. For the twenties' image of wealth achieved by luck or pluck, and the depression image of wealth secured through cynical ruthlessness, no substitute image was available in the later thirties, or none that impressed the audience in a positive way. It was a period of false confidence and foreboding. So the movies crusaded in favour of Roosevelt's social reforms—with limited success; or prophesied the looming war—with mixed success; or fostered escape into private worlds through musicals and "screwball comedies", with great success. Indeed, the screwball comedies, with their portrait of a "crazy world that doesn't make sense" could not but typify an era in which the individual saw the roads to private happiness barred by economic disaster and the threat of world catastrophe.

Ironically, it was the catastrophe itself which filled this gap, and not alone by supplying new subject-matter. The war completed economic recovery, which under the New Deal had never quite become a fact, and unleashed productive forces which were to change the common daily life of the American people to an extent undreamed of and as yet not really measured. During the 1928 presidential campaign, a year before the stock market crash put an end to their psychological leadership of the nation, the Republicans published a famous political advertisement under the rubric of "A Chicken for Every Pot", which said in part: "Republican efficiency has filled the workingman's dinner pail—and his gasoline tank *besides*—made telephone, radio and sanitary plumbing *standard* household equipment. And placed the whole nation in the *silk stocking class*." The bull market of the late twenties was indeed based on the expectation that these things were about to come to pass, but they had not—and did not, and it was the disappointment of these hopes which, along with the depression, so seriously shook the nation's confidence in itself and its institu-

Though fifty years have passed since The Great Train Robbery *(1903) set a pattern for "Westerns", they are now more popular than ever, having become the favourite cinematic entertainment of the—*

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—urbanized American. Such films as Red River *(1948) take him back to a "lost, wild America"*

tions. But the war absorbed the whole of the idle labour force, raised the minimum wage level to a new peak, and, of greatest importance, perfected the techniques of mass production to the point where the commodities of industrial civilization are visibly within the reach of all, or nearly all. The nation is in, not the silk but the nylon stocking class. From 1946 onwards, the cornucopia has poured forth refrigerators, cars, television sets, kitchen aids and household appliances in a never-ending stream. Utopia, of a kind, seems to have arrived.

Its arrival created, or began to create, a new image to succeed the goals of the twenties and early thirties. The Horatio Alger hero's struggle to earn wealth, the gangster's yen to grab it, were predicated upon the assumption, for thousands of years a fact, that only through wealth could material well-being be gained. In the America of the 1940s and 1950s, this is no longer so obvious a fact. A man need not be Little Caesar or Babbitt or Citizen Kane to acquire the *things* he has been taught to want; he need just do his ordinary job at the going pay. So the ballroom and the penthouse began to fade out, and over them to fade in the image of a "ranch-type" house in the suburbs, chock full of all the gadgets and devices for which advertising can create a demand.

The movies, which always in the past have foreshadowed new wish-images, have been slower to copy this one. Hollywood is not quite geared to do so. Its gods and goddesses, long conditioned to fulfilling vicarious public wishes by comporting themselves as gods and goddesses should, have had some difficulty fitting themselves into the ranch-type suburban cottage. Nevertheless the attempt had to be made, as the "fan" magazines attest. Since the middle forties they have been filled with material such as that memorable photograph of an evening scene in the living room of Jane Wyman and Ronald Reagan (then married, since severed), in which Miss Wyman was depicted as sewing on new window curtains while her husband polished the riding boots he would wear in the next day's shooting. The Gloria Swanson of the twenties or the Marlene Dietrich of the thirties might occasionally be photographed cooking a meal in the kitchen for the sake of "sympathy", though they knew the public really wanted to see them drinking in night-clubs, sailing for Europe, gambling at Las Vegas, or, if possible, in bed. But the props of domesticity are as essential to today's stars as they were to the curly-headed blonde of the movies' age of innocence. In

short, though amour and divorce are as efflorescent in Hollywood today as they always have been in the emotionalized world of entertainment, everybody must go through the motions of the homebody, make known his absorption in baby's first tooth or that long-planned trailer trip to the mountains.

If this new image of the American wish has dominated movie publicity more than the screen itself, there are reasons beyond the obvious difficulty of dramatizing suburbia. Wealth as a goal in the past has meant not only luxury, the possession and use of things, but also a certain freedom of emotion and behaviour, and these are things difficult to tuck beneath the roof of the ranch-type dovecote. Other kinds of films have had to come forward to satisfy the immemorial longing for adventure and excitement and uninhibited conduct, in particular one other kind, the Western film.

In sketching those aspects of American life which have dominated the American screen, I have found no opportunity—as Eric Ambler would, and the editor of a geographical magazine might, have wished—to survey the American land as it has been reflected in films. To do so would have been to depart from the true purpose of this series of articles because, as I have premised, the fifty-odd years of the movies' existence have been years of the steady urbanization of America, and the movie has been the mirror and prime mover of urbanization. Between 1908 and 1916 probably half the movies produced were dramas of the soil, but in any given year since 1925 it is doubtful if more than five per cent have dealt with the land except incidentally. (Two films which did, *State Fair* (1933), and its 1945 re-make of the same name, strikingly attest the urbanization of country life. The state or county fair, once the symbol of rustic pursuits, is seen to have become an affair of automobile shows, "name-bands", and stellar radio comedians.) But to this rule, the prevalence of which will be clear to anyone who attentively examines his memories of movie-going, there is a dramatic exception, the Western.

The Western is the oldest of movie genres, the first being probably *The Great Train Robbery* of 1903. It has from that date been steadily popular, with one period of eclipse, when the coming of sound made shooting outdoors momentarily difficult, and one period of degeneracy when the popularity of radio "hillbilly" singers as Western screen stars threatened the demise of the classic Western pattern. Their vocalizing slowed the action to a dead halt. This fashion held through the thirties and the early forties, and it was widely believed that the Western was indeed "through", that it had become so specialized a form as to have little appeal outside backwoods communities where a taste for pseudo-folk-music persisted. But since the war—and perhaps one might even date it since Hiroshima—the Western has made an extraordinary comeback. Producers could not believe their eyes as they looked at the gross takings of films made at so modest a cost in the expectation of equally modest returns. Westerns, whose popularity had hitherto been confined to the smallest towns, suddenly became big box-office in the largest cities, the only dependable box-office in fact in the period when the inroads of television began to be felt by the theatres.

How does it come about that the only part of the American landscape which finds a conspicuous place on the screen is the far West? The question is obviously worth the scrutiny of the professional historian, a scrutiny it has yet to enjoy. I can only suggest as an interim answer that the West of the screen belongs to the past, and to a particular kind of past. Today's dweller in suburban Utopia has most of the things he has been taught to want, but how long will he have them? How long before he is wrenched from suburbia and put into uniform? Or how long before suburbia itself is obliterated overnight? With such forebodings, and they are universally felt, Utopia is hard to enjoy. What is felt as most frustrating is that the individual is helpless. By no way of taking thought or action can he affect his fate or that of his descendants. "For all we have and are", he can do nothing.

Only three generations ago he could at least have fled the situation, pulled up stakes and moved on to wild country, where opportunity was boundless as the unfenced prairie and where danger was the tangible menace of hand-to-hand combat rather than the fear of losing a job or of meeting an invisible death rained from the skies. The urge to meet life in this fashion is still strong in the American. It may have to do with his erection of "ranch-type" houses on the eastern seaboard of the United States, where ranches never were. It certainly has to do with the fact that the Western is currently his favourite entertainment, on the small screen of television as on the giant screens of tottering moviedom. It is an index to the social meaning of popular art that the movie, the mirror and agent of urbanization, should at last have become the looking-glass through which Americans pass to the "lost, wild America" of the day before yesterday, where a man could stand up.

Conflict in North Africa

by LORD KINROSS

France is the intermediary through which, after an interval of 1200 years, European civilization has once more become dominant in North Africa. But now different forces have to be resolved: the Moslem religion, a new mixture of peoples, modern nationalism and modern industrial and agricultural techniques. This conflict of forces is most marked in Algeria and Tunisia, to which Lord Kinross, writing with long experience of the Near East, herein devotes special attention

THE night porter of the hotel in Kairouan was talkative. Being a Berber, he had an enquiring mind; and it was evident that he had also a historical sense. Looking back over the history of his people he remarked: "We got on very well with the Romans. Then came those long religious wars. And now we have the French, whom we get on with well enough, in the same sort of way."

It seemed an adequate appreciation. North Africa has been described as the "Fourth Shore" of Europe. It was so under the Romans, two thousand years ago. It ceased to be so with the Arab Conquest in the 7th century. It became so again in the 19th century, and is so today in circumstances which arouse some conflict between Europe and North Africa.

Between the Romans and the Berbers, the ancient race which inhabited North Africa, there was little such conflict. Rome's occupation of Tunisia and Algeria, following the fall of Carthage, coincided with a period at which the population of Italy was declining. This fact conditioned her North African policy. She did not require the Fourth Shore essentially as an outlet for colonists—as Italy and France were to require it two thousand years later. She required it as a source of foodstuffs. Italy had no longer the man-power to produce enough grain for the people of Rome. Thus, if they were to be kept contented, the grain must be imported. Hence the imperial policy of the exploitation of North Africa—particularly the rich grain-lands of Tunisia—for the benefit of the capital. As Italian agriculture continued to decline it became a reservoir not only of grain but also of oil and wine, involving the construction of hydraulic works, for the conservation of water, on a considerable scale.

In the absence of large-scale Italian immigration this exploitation had to be carried out very largely by the Africans themselves. Hence the Romans adopted a flexible social policy, tending to treat them as partners, respecting their institutions and giving them an interest in the government and development of the country. Large numbers of Berber small-farmers remained in possession of their property, subject only to land tax. Others were established as colonists on state lands. Others again cultivated state lands or the lands of the big Roman proprietors as managers or sub-tenants on a share-cropping basis. Nomadic tribes were induced to settle on the land, on favourable terms.

Economic advantages were balanced by political privileges. North Africans could qualify, through a series of institutions, from municipalities to colonies, for full Roman citizenship. They played an appreciable role, at various levels, in the administration. They formed, in the long run, the greater part of the Army. In effect, during this period, the blessings of *Pax Romana* were conferred less by Romans on Berbers than by Romanized Berbers on non-Romanized Berbers.

The economy which the Romans had created, and the Byzantines inherited, stood up well enough to the earlier Arab invasions. But the Arabs failed to assimilate the Berbers as the Romans had done. And they failed to maintain their own unity. From the 11th century onwards Arab rule weakened and North Africa began to disintegrate. *Pax Arabica* was no more. Unity vanished in continual conflict between rival principalities, in risings of the Berbers of the mountains against the Arabs of the plains, in new invasions by Bedouin hordes, who destroyed the olive groves, ravaged the crops, and allowed the land to fall out of cultivation. An unsettled, nomadic way of life returned.

In the 16th century Europe, in the person of the Spanish Empire, tried to regain its Fourth Shore. But the Turkish Empire defeated it. The Turks restored a certain security. But it disintegrated through inertia and general decay. In the 19th century, taking advantage of this, the Europeans came on the scene once more. France conquered Algeria, and there was an influx of European colonists, reclaiming the derelict lands. Italy showed designs on Tunisia, and France moved in, forestalling her. By the early part of the 20th

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French administration in Algeria and Tunisia shares two aims with that of the Romans: to create a working partnership between North Africans and Europeans and to promote economic development. (Above) *A village council: the district officer alone is French.* (Below) *A Roman aqueduct*

Black Star

century North Africa was once again the Fourth Shore of Europe, as it had been in the days of the Romans.

Pax Gallica, in Algeria and Tunisia, embraces a synthesis of African and European peoples, creating an atmosphere which is Mediterranean in character. On the one hand there are the rugged Berbers of the mountains, the lean nomadic Arabs of the deserts, the more listless settled Arabs of the plains and the cities—now mingled together into an indeterminate Berbero-Arab race. There are the Jews, of whom some survive from pre-Arab and even pre-Roman times, and some from the mediaeval immigrations from Spain. While the Arabs manufacture and cultivate, these Jews, often indistinguishable from them in appearance, have been for centuries their bankers and tradesmen. In the walled native cities they live side by side, and only a sudden straightening of the streets shows where the Arab quarter ends and the Jewish begins. In Tetuan, in Spanish Morocco, the Calle Abraham S. Israel runs happily into the Calle Haj Ahmed Torres; and such Arab-Jewish harmony prevails throughout North Africa, in a manner unknown in the Levant.

Distinct from both Arabs and Jews are certain pre-Arab Semitic settlements, now Moslem, as for example the fair-skinned, go-getting, commercial people of Sfax, self-contained and calling themselves Sfaxians, not Arabs, who from their appearance may well be the descendants of a Phoenician trading community. Finally there are peoples of mixed race, particularly on the coasts and islands of Tunisia, near to Europe, who have the blood of European pirates and invaders in their veins : of Normans, Greeks, Albanians, Sicilians. On one of the Kerkenna islands, off the coast of Tunisia, there is a tribe called the Ouled Janeg, the sons of John.

The European population amounts to a million and a quarter out of a total of eleven millions in Algeria and Tunisia. It is varied : the French predominate, including families which have been there for generations, speak of themselves as North Africans and hardly know metropolitan France. Eighty per cent of French Algerians were born in the country. But in Algeria Spaniards and in Tunisia Italians are also numerous—often now with French nationality. The province of Oran is as much as half European, and in Oran itself, a port not unlike Nice, the Europeans amount to eighty per cent of the population. In some districts as many as two-thirds of them are Spanish in origin. Such names as Gomez, Perez, Martinez and Garcia are familiar. They are for the most part small-farmers or salaried managers of larger European farms, hard-working by nature, whose families came over with the first wave of colonists in the 1850s, who intermarry with one another and have relatively little social contact with the French. In Sidi-bel-Abbès, where there have been immigrations since the Spanish Civil War, their preponderance is such that they produced the anomaly of a Communist municipality in an essentially agricultural area.

The Italians in Tunisia—including those who have adopted French nationality—amount to nearly half the European population. They live mostly in the towns, usefully filling a gap as artisans and workers, mixing more easily with the Arabs than the French do, working hard and playing little part in politics. Other European minorities include Maltese, mostly in clerical employment, and Greeks, in commerce. There is also, especially in Tunisia, a large community of Corsicans, in the administration and otherwise, well organized politically and of a reactionary and truculent disposition.

Between these diverse elements the French have achieved, in the functional sense, a certain working harmony. But their task is more difficult than that of the Romans. Politically North Africa is an asset to them. Economically it is a liability. Whereas in the past Tunisia and Algeria helped to feed Rome, today France must help to feed Tunisia and Algeria. French colonization has reclaimed, for these territories, large areas of land which had fallen out of cultivation since the days of Rome and Byzantium. France provides herself, as Rome did, with substantial imports of wine and olives, together with citrus fruits. But she can no longer provide herself, as Rome did, with imports of grain.

For in developing the country, both economically and socially, she has so raised the standard of living and improved the health of the native population that its numbers have risen beyond the point at which it can support itself. In Algeria it has more than tripled since the French occupation, more than a century ago, and is rising at the rate of a quarter in each decade. In Tunisia it has doubled since the French occupation, seventy years ago, and is rising at a similar rate. Thus, far from being able to import Algerian and Tunisian grain, the problem of the French today is to produce enough of it to feed the Algerians and Tunisians, and enough exports of other foodstuffs to provide them with necessary imports. Both territories show large commercial deficits, and their budgets are subsidized by France to the extent of some £25,000,000 each, per year, quite apart from

ul Popper

(Above) *Kairouan, with its many mosques, is the Holy City of Tunisia and a centre of pilgrimage among North African Moslems. Purely an Arab town, it is remarkably unaffected by French influences. But Constantine* (below), *like many large towns in Algeria and Tunisia, might be anywhere in France itself*

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Camer

(Above) *In some parts of North Africa and among some classes of townspeople, the French policy of assimilation has been successful. Moslem beliefs, however, have great force and most Arab women are still veiled, even while they enjoy modern amenities.* (Left) *Economic and social diversity in North Africa does not necessarily imply conflict: a Jewish tailor, one of a community which has lived harmoniously side by side with the Arabs for centuries*

Camera Press

The desert nomads may benefit by modern roads in their seasonal migrations; new wells may make these easier and perhaps induce them to settle; but their life remains remote from that of Europe

expenditure on capital development.

The problem is one of agricultural production. The European colonist regards farming as an enterprise, laying out his capital for profit. I have driven for miles through his well-planned citrus groves, past miles of well-kept irrigation canals, hearing of his unceasing experiments with fertilizers and grafts and crop rotation, seeing new stretches of land which he will plant next year and the next, on a well-laid plan. He thus produces, in relation to the land in his possession, three times as much as the African, who regards farming simply as a traditional way of life, growing on a small patch of soil enough to satisfy his barest needs and those of his animals. In a good year he will grow no more, because he has all he requires; in a bad year he will shrug his shoulders and accept it as the will of Allah that his animals shall starve.

But the colonist alone can produce only a fraction of the country's needs. The gap must be closed by persuading and enabling the African to grow more, that he may derive profit and not merely subsistence from his lands, and thus contribute to the country's economy. The main problem, as in the days of the Romans, is to provide more water. Each spring, in Tunisia, the roads are thronged with semi-nomadic tribesmen and their families, trekking hundreds of miles from the sparse southern lands to water their herds

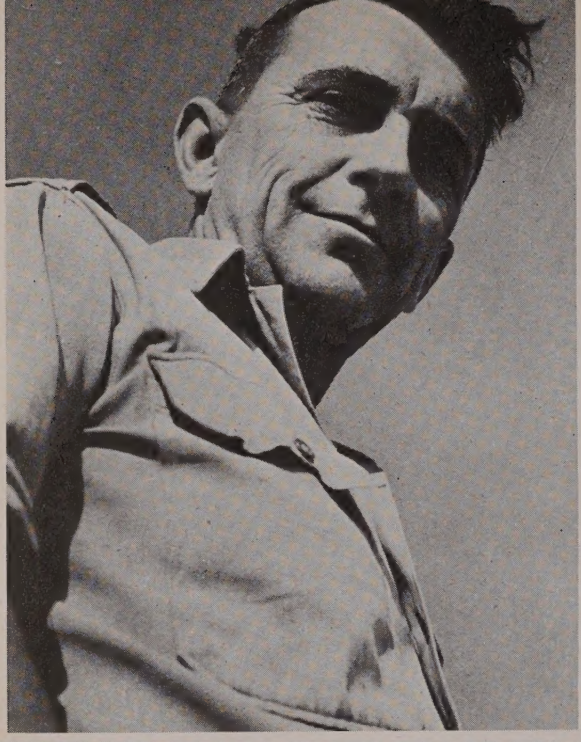
in the richer pastures of the north. To prevent this wasteful pilgrimage wells are now being sunk in the south, often on the sites of original Roman workings, to water the soil so that the tribesman may settle on it, seeding pasture for his animals and planting fruit trees and other cash crops, so that he may have money in his pocket to build himself a permanent house, and thus gradually to raise his standard of living. Already, in the villages, I have seen him carrying armfuls of white French loaves from the baker to replace the old Arab barley bread, baked at home.

Barrages are being built, of which a typical example, in Northern Tunisia, will quadruple the production of the Medjerda Valley. This valley was once rich, cultivated by Andalusian Moslems until Turkish persecution drove them to abandon their lands; and it will soon be rich again, providing lands for a quarter of a million native settlers. Cooperative societies are financing the peasant, providing him with agricultural materials and educating him in agricultural methods. At first their progress was slow. The peasant, used to the extortions of the Jews, was reluctant to borrow from the government. They mistrusted its intentions, feared confiscation of their lands, and asked only to be left in peace. In one tribal area, when French officials came to uproot the palm scrub encumbering the land, they protested angrily, quoting the holy man who, centuries ago, had prophesied that if the tribe lost its palms it would lose its lands. But the land, once cleared, doubled its crop, no such catastrophe occurred, the peasants had for the first time wallets filled with banknotes, and the tribe, which formerly had a mere six horses, now had 123, with which to show off before its neighbours. Thus the neighbours began to clamour for similar cooperative blessings. The peasant's fatalistic submission to the will of Allah, in agricultural matters, is beginning to weaken.

Besides peasants and nomads there is, as in the time of the Romans, a substantial population of agricultural labourers, working on the estates of the settlers. Today they have a minimum wage so high that the citrus-growers of Algeria are wringing their hands. For their oranges can no longer compete, in the British market, with those of Spain, where wages are lower. Today each farmer must provide houses for his labourers. A French settler in Northern Tunisia showed me with pride a village which he had built for his forty Africans. The government prescribes tiled roofs. But he had insisted on thatching the roofs for greater warmth in winter, thus forgoing the government grant. The labourer gets better treatment from the French than from the African farmer. Indeed relations between employers and employed, in the areas of European settlement, are so good that the settler tends to underrate the problem of Franco-Arab relations generally.

Thus on the whole the rural Berbero-Arab —that is to say, the bulk of the native population of North Africa—is content with French rule. But France, like ancient Rome, has essentially an urban civilization, and the problem of its cities has yet to be solved. The Romans, by the dissemination of their culture through an educated *élite*, achieved a close and harmonious synthesis with the Berbers of North Africa. The two races understood each other. The Berbers acquired new habits of association in the municipalities and other institutions of the Romans. The *lingua franca* of Latin linked them culturally. There was

A. J. Thornton



(Left) *A French settler in Tunisia; and* (below) *his carefully contour-ploughed farm. The French settlers "regard farming as an enterprise" and North Africa as their home. Cultivating larger areas than the Africans, they combine greater capital and technical skill with the desire to make money, and work hard to maintain their higher standard of life. They have reclaimed much land and brought it to a state of productivity not seen since the days of the Roman occupation*

Black Star

The North African peasants, on the other hand, prefer to work like their ancestors on a 'pocket handkerchief' of land only hard enough to provide for the immediate needs of their own families; but they are beginning to see that it may be worth while to take advantage of the help offered by peasant cooperatives. These provide implements and fertilizers and teach better agricultural methods than the primitive traditional ones

ture Post Library *Camer*

Until the present generation the Frenc colonists have been the chief benef ciaries of the irrigation systems new constructed in North Africa. Now mo and more the Arab farmers are able share in the increasing water suppli being made available by the governmen Like the Romans before them, the Frenc appreciate that North Africa must ha more water if it is to produce more crop

moreover no barrier of religion between them. They shared the same gods.

The French have tried, and are trying, similarly to assimilate the urban Berbero-Arabs of today. But their task is more difficult. French has become, as Latin was, the *lingua franca* of these countries. Algeria is administered as part of metropolitan France, whose native inhabitants are French citizens as their forbears were Roman citizens, and can sit as deputies in the French Parliament. More than 300,000 Algerians live and work permanently in France, mostly as skilled technicians, and 20,000 of them have married French wives. Throughout North Africa French education prevails: the younger generation of Algerians and Tunisians is schooled in French *lycées* and French universities, acquiring French habits of thought and philosophy and culture. They regard France, in a sense, as their home. An Algerian student, beneath the Arc de Triomphe, was overheard to remark to another: "With all these English tourists around, one no longer feels *chez soi*."

I have spent stimulating evenings with young Algerians and Tunisians, who might have been young Frenchmen. Their homes were decorated in French style, their food was French, their wives sometimes were French, their manners were French, and their conversation was in French, enlivened with French wit and French critical detachment. They have been schooled at the Sorbonne, on the best French Liberal principles. Yet they are bitter against the French, as the Berbers can seldom have been bitter against the Romans. They are disillusioned with France. She is refusing them the chance to practise those principles which her education has taught them. They are nationalists, as the Frenchmen of the Revolution and the Italians of the Risorgimento were nationalists, wanting to play their part in the government of their country. But the French still retain all but the minor administrative posts for themselves, and will make them no adequate concessions regarding self-government. When they talk of autonomy for Tunisia they mean an autonomy with continued French control. As a young Tunisian remarked: "They are like the chemist who changes the label on the bottle but not the contents."

The Romans were untroubled by any such native nationalist aspirations. They were untroubled also by the stresses and strains of an industrial civilization. The French have brought new wealth and new horizons to the Berbero-Arab worker in the towns. But the process has been too abrupt. He has been uprooted from his traditional tribal environment. But he has not yet been absorbed into a new social environment. He is part of a rootless proletariat, dazed by modern life and its temptations, bewildered by the impersonality of the factory, by all the new demands which are made on him, by the apparent lack of that concern with his welfare which tribal life afforded him. His work may be irregular. He may be badly housed in a sordid *bidonville*, since the French cannot build workers' houses quickly enough. He is thus easily corrupted politically, whether by Communists or Nationalists, and the Nationalists in particular play on his primitive religious emotions to enrol him among their "shock-troops". While the educated *élite* grows increasingly agnostic, there are still fanatical religious leaders in North Africa, for whom the foreigner is the infidel, who will admit no status to a Christian power in a Moslem state, and who wield a xenophobic influence in the mosques and Islamic schools.

The Roman process of assimilation, in a different historical context, unhampered by any of these complications, nevertheless took two centuries to mature. The French have now been in Algeria for more than a century, and here their policy of assimilation has been more successful than elsewhere. The Algerian, if he does not consciously aspire to being a Frenchman, has at least grown used to becoming one in fact. In Tunisia the conflict goes deeper. On the one hand the country, like Morocco, has a native dynasty, which serves as a focus for nationalist activity. On the other it has a powerful reactionary French element, settlers as implacably opposed to concessions as Dr Malan and his followers. Thus feeling between the two extremes runs high. Assimilation, on Algerian lines, seems no longer possible here. The Tunisians do not want to be Frenchmen. They want to be, in their own right, Tunisians, in partnership with the French. It may well be found that the best solution here is not to make Tunisians French citizens but to make Frenchmen Tunisian citizens, cooperating, not beneath the tricolor, but beneath a Tunisian flag, for the benefit of both peoples. The French are unlikely to Frenchify the whole of North Africa as the Romans Romanized it. But, with a conciliatory and imaginative spirit, they could still achieve a harmonious synthesis of their own, on a basis of free association between French and Africans.

As a wise old Tunisian said to me: "The British usually arrive five minutes early for a party; the French five minutes late." There is still time. The five minutes in North Africa are not yet up.